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Miscellanea Herpetologica Gabonica V & VI . . . Olivier S. G. Pauwels, Bernard Le Garff, Ivan Ineich, Piero Carlino, Ilaria Melcore, Larson Boundenga, Christian Vigna, Tariq Stévart, Kathryn Jeffery, Christopher Orbell, Jean-Baptiste Squarcini, Jean Pierre Vande weghe and Lee J. T. White 177

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Miscellanea Herpetologica Gabonica V & VI

Olivier S. G. Pauwels [1], Bernard Le Garff [2], Ivan Ineich [3], Piero Carlino [4], Ilaria Melcore [4], Larson Boundenga [5], Christian Vigna [6], Tariq Stévart [7], Kathryn Jeffery [8], Christopher Orbell [8], Jean-Baptiste Squarcini [8], Jean Pierre Vande weghe [8] and Lee J. T. White [8]

Abstract

We report the first observations of the orange morph and new locality records for *Atheris squamigera* (Viperidae) in Gabon, and new Gabonese locality records, ecological data or unpublished museum material for *Pelusios castaneus* and *P. chapini* (Pelomedusidae), *Kinixys erosa* (Testudinidae), *Trionyx triunguis* (Trionychidae), *Crocodylus niloticus*, *Mecistops cataphractus* and *Osteolaemus tetraspis* (Crocodylidae), *Agama agama* and *A. lebretoni* (Agamidae), *Chamaeleo dilepis*, *C. oweni* and *Rhampholeon spectrum* (Chamaeleonidae), *Hemidactylus echinus* and *H. mabouia* (Gekkonidae), *Gerrhosaurus nigrolineatus* (Gerrhosauridae), *Trachylepis maculilabris* and *T. p. polytropis* (Scincidae), *Varanus ornatus* (Varanidae), *Crotaphopeltis hotamboeia*, *Dipsadoboa underwoodi*, *Hapsidophrys smaragdinus*, *Philothamnus carinatus* and *P. heterodermus*, *Rhamnophis aethiopissa*, *Thrasops flavigularis* (Colubridae), *Pseudohaje goldii* (Elapidae), *Aparallactus modestus*, *Atractaspis boulengeri*, *Buhoma depressiceps*, *Hormonotus modestus*, *Psammophis cf. phillipsii* (Lamprophiidae), *Python sebae* (Pythonidae), *Indotyphlops braminus* (Typhlopidae), *Bitis nasicornis* and *Causus lichtensteinii* (Viperidae). We add one species each to Estuaire, Haut-Ogooué and Ogooué-Ivindo provinces' reptile lists. Two snake species are added to Ivindo National Park, bringing the total number of reptile species recorded from the park to 64, i.e., half of the species currently recorded from Gabon. We document predation cases of *Pycnonotus barbatus* (Aves: Pycnonotidae) on *Hemidactylus mabouia*, *Philothamnus heterodermus* on *Arthroleptis variabilis* (Amphibia: Arthroleptidae), *Hormonotus modestus* on *Hemidactylus mabouia*, *Psammophis cf. phillipsii* on *Gerrhosaurus nigrolineatus*, *Causus lichtensteinii* on *Sclerophrys* sp. (Amphibia: Bufonidae) and feeding of *Varanus ornatus* on spaghetti.

Keywords

Biodiversity, herpetofauna, herpetology, Crocodylia, Squamata, Testudines, protected areas, conservation, Gabon, Equatorial Africa

Introduction

The reptile fauna of Gabon is still poorly known, and new species are still regularly added to the country's list (Carlino and Pauwels, 2015; Ineich and Le Garff, 2015; Pauwels et al., 2016). Data on geographic distribution and natural history within Gabon are still scarce for most species and every contribution, even minor, is welcome. The series Miscellanea Herpetologica Gabonica (MHG) was created to offer a forum to compile miscellaneous data on Gabon reptile species' ecology and distribution in order to progressively fill knowledge gaps. The harvest of data was particularly rich since the publication of the MHG IV (Pauwels et al., 2016), and equivalent to two regular volumes in terms of new information and number of taxa involved, reflecting the importance of making such media available in order to promote the publication of data that would otherwise remain unpublished or be difficult to access. The present double volume of the series includes, among others, voucher material collected in Ivindo National Park thanks to an agreement between the Natural History Museum of Salento and the Centre National de la Recherche Scientifique et Technique (CENAREST) of Libreville, and observations gathered during field surveys organized for Master students at the University of Masuku in Franceville in collaboration with the University of Rennes I. Several obser-

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vations were also made during field work by the teams of the Centre International de Recherches Médicales de Franceville (CIRMF) and of Gabon's Agence Nationale des Parcs Nationaux.

Material and Methods

New reptile voucher material under study was deposited in herpetological collections of the Institut Royal des Sciences Naturelles de Belgique in Brussels, the Muséum National d'Histoire Naturelle in Paris and the Natural History Museum of Salento in Calimera. Collected specimens were injected with 90% ethanol then preserved in 70% ethanol. Snake ventral scales were counted according to Dowling's (1951) method. Snake dorsal scale rows were counted at one head-length behind the head, at midbody (above the ventral corresponding to half of the total number of ventrals), and at one head-length before the vent; subcaudal counts exclude the terminal pointed scale. The sex of preserved snakes was determined by dissection of the tail base. Specimens' main diagnostic morphological characters are provided in Table 1 and within the species accounts.

Abbreviations: **Institutions**: IRSNB: Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium; MHNN, Muséum d'Histoire Naturelle de Nice, Nice; MNHN, Muséum National d'Histoire Naturelle, Paris, France; MSNS, Natural History Museum of Salento, Calimera, Italy. **Morphology**: A = anal plate; AT = anterior temporals; D = divided; DSR = number of dorsal scale rows; F = female; IL = number of infralabials, followed in brackets by the number of IL in contact with the first pair of sublinguals; K = keeled; M = male; PoO = number of postoculars; PreO = number of preoculars; PV = number of preventrals; S = single; SC = number of subcaudals; SL = supralabials, followed in brackets by the SL in contact with orbit; SRR = dorsal scale row reduction; SVL = snout–vent length; TaL = tail length; U = unkeeled; V = ventral scale; VEN = number of ventral scales. **Varia**: Dept = Department; NP = National Park; Prov. = Province.

Results

Testudines
Pelomedusidae and Trionychidae
One of us (OSGP) examined, in the collections of the MHNN, three whole dried turtles labeled ''Gabon'': one adult *Pelusios castaneus* (Schweigger, 1812) (MHNN 2339), one adult *P. chapini* Laurent, 1965 (MHNN 2342) and one subadult *Trionyx triunguis* (Forskål, 1775) (MHNN 2341). These turtles were donated by Robert Brun (Nice) to the museum in 1988. Although no detailed localities are available, they were collected in Gabon by Mr. Brun's nephew, who was then a soldier posted in Gabon (R. Brun, pers. comm. to the curator O. Gerriet, July 2016). Interestingly, *Pelusios chapini* was mentioned from Gabon for the first time only more recently (Maran, 2002). The male *P. gabonensis* (MSNS Rept 42) from Ipassa reported by Carlino and Pauwels (2015) was illustrated alive by Carlino (2010: 19).

Testudinidae
Kinixys erosa (Schweigger, 1812)
Boundenga et al. (2016) reported the finding of haemosporidian parasites (*Haemocystidium*-like) in two out of 14 sampled individuals from Gabon. It can be deduced from their Table 1 that these two individuals originate from Haut-Ogooué and Ngounié prov., respectively. No detailed localities were provided by Boundenga et al. (2016), but we provide them here in Table 2. The sampling sites represent ten new locality records and confirm this species as the most common and widespread chelonian in Gabon (Maran and Pauwels, 2005).

Crocodylia
Crocodylidae
Crocodylus niloticus Laurenti, 1768
The blood of an individual from Déguélié Lake (ca. 10 km W of Lambaréné), Ogooué et Lacs Dept, Moyen-Ogooué Prov. was sampled in search of haemosporidian parasites (see Table 2 and Boundenga et al., 2016) with negative results. New locality record.

Mecistops cataphractus (Cuvier, 1824)
The individual illustrated by Susini (2013: 15) from ''Plateau Batéké'' was more precisely photographed along the M'Passa River within Batéké Plateaux NP (Susini, pers. comm. to PC and OSGP, 2016).

Osteolaemus tetraspis Cope, 1861
Boundenga et al. (2016) reported negative results for the screening of haemosporidian parasites in seven individuals from Gabon; they mentioned no collection localities but we provide them here in Table 2 (Boundenga, unpubl. data) for five out of the seven specimens.

Squamata
Agamidae
Agama agama (Linnaeus, 1758)
One of us (BLG) observed individuals in Bakoumba, Lékoko Dept, Haut-Ogooué Prov., in June 2012, and in Koulamoutou, Lolo-Bouenguidi Dept, Ogooué-Lolo Prov., in June 2014. Respectively new dept and new locality records (Pauwels et al., 2007; Pauwels and Vande weghe, 2008). The photograph of an adult male presented by Carlino (2010: 17) without locality was taken in April 2010 on the beach of Hôtel Tropicana (Quartier Tahiti) in Libreville.

Agama lebretoni Wagner, Barej & Schmitz, 2009
One of us (BLG) observed an adult male in the park of the Hôtel Masuku in Franceville in April 2011; it was illustrated by Le Garff (2015: 26, under *A. sylvana*). This confirms the co-occurrence of *Agama agama* and *A. lebretoni* in Franceville (Pauwels et al., 2016).

Chamaeleonidae
Chamaeleo dilepis Leach, 1819
The individual shown in Vande weghe (2014: 289) without locality was actually caught by one of us (OSGP) in Yenzi, Gamba, Ogooué-Maritime Prov., and was also pictured in Pauwels and Vande weghe (2008: 85).

Chamaeleo oweni Gray, 1831
The adult male shown on p. 289 in Vande weghe (2014) as being from Monts de Cristal (also figured in Vande weghe, 2008), more precisely was photographed in Kinguélé, which represents a new locality for the species (Pauwels et al., 2002b).

Table 1. Diagnostic morphometric and meristic data for colubrid and lamprophiid snake vouchers. For the abbreviations see Materials and Methods.

Species & catalog number	Sex	SVL (mm)	TaL (mm)	DSR	PV + VEN	A	SC	SL	IL	Lor	PreO	PoO	AT
Colubridae													
Dipsadoboa underwoodi													
IRSNB 18388	F	446	129	17-17-11, U	2 + 193, U	S	79, S, U	8 (3-5) / 8 (3-5)	9 (4) / 9 (4)	1 / 1	1 / 1	2 / 2	1 / 1
MSNS Rept 225	F	322	92	17-17-13, U	3 + 193, U	S	1D+79S	8 (4-5) / 8 (4-5)	10 (5) / 10 (5)	1 / 1	1 / 1	2 / 2	1 / 1
Philothamnus carinatus													
MSNS Rept 241	M	213	80	13-13-11, U	1 + 149, K	S	85, D, slightly K	9 (4-6) / 9 (4-6)	10 (5) / 10 (5)	1 / 1	1 / 1	2 / 2	2 / 2
Philothamnus heterodermus													
MNHN 2014.0063	F	445	167	15-15-11, U	2 + 162, K	S	84, D, U	9 (4-6) / 9 (4-6)	10 (5) / 10 (5)	1 / 1	2 / 2	2 / 2	2 / 2
MSNS Rept 229	F	394	>127	15-15-11, U	2 + 152, slightly K	S	>69, D, slightly K	9 (4-6) / 9 (4-6)	10 (5) / 10 (5)	1 / 1	1 / 1	2 / 2	2 / 2
MSNS Rept 231	F	424	170	15-15-11, U	1 + 154, slightly K	S	89, D, slightly K	9 (4-6) / 9 (4-6)	10 (5) / 10 (5)	1 / 1	1 / 1	2 / 2	3 / 3
MSNS Rept 239	F	392	150	15-15-11, U	1 + 150, K	S	82, D, slightly K	9 (4-6) / 9 (4-6)	10 (5) / 10 (5)	1 / 1	1 / 1	2 / 2	2 / 2
Rhamnophis aethiopissa													
MSNS Rept 226	F	260	135	17-17-11, U	1 + 166, K	D	140, D	7 (4-5) / 7 (4-5)	9 (5) / 9 (5)	1 / 1	1 / 1	3 / 3	1 / 1
Lamprophiidae													
Aparallactus modestus													
MSNS Rept 237	M	275	60	15-15-15, U	1 + 133, U	S	40, S, U	7 (3-4) / 7 (3-4)	7 (4) / 7 (4)	0 / 0	1 / 1	2 / 2	1 / 1*
Atractaspis boulengeri													
MSNS Rept 220	M	394	34	23-23-17, U	2 + 198, U	S	1D+8S+9D +2S+4D, U	5 (3-4) / 5 (3-4)	5 (3) / 5 (3)	0 / 0	1 / 1	1 / 1	1 / 1
Buhoma depressiceps													
MSNS Rept 221	M	195	34	19-19-15, K	2 + 143, U	S	34, D	7 (3-4) / 7 (3-4)	9 (4) / 9 (4)	1 / 1	2 / 2	2 / 2	1 / 1
Hormonotus modestus													
MSNS Rept 135	M	525	>66	15-15-13, U	2 + 230, K	S	>38, D, K	8 (3-5) / 8 (3-5)	9 (4) / 9 (4)	1 / 1	1 / 1	3 / 3	2 / 2
MSNS Rept 219	F	556	134	15-15-13, U	1 + 217, K	S	85, D, K	8 (3-5) / 8 (3-5)	9 (4) / 9 (4)	1 / 1	1 / 1	3 / 4	2 / 2

* Behind the contact between 6th SL and parietal.

Rhampholeon spectrum (Buchholz, 1874)

The live adult male illustrated without locality by Panzera (2012: 9) corresponds to the specimen MSNS Rept 45 from Ipassa, Ogooué-Ivindo Prov., reported by Carlino and Pauwels (2015).

Gekkonidae

Hemidactylus echinus O'Shaugnessy, 1875

IRSNB 18392: Ipassa, 17 June 2016. Caught in forest at around midnight at 1 km from Ipassa Station towards the water tower. Adult male, SVL 62 mm; TaL 61 mm, tail original; pupil vertical with crenelated margins; rostral half divided by a dorso-ventral suture; SL 10 / 10; IL 11 / 11; 19 rows of dorsal tubercles at midbody, dorsal tubercles pointed, separated from each other by 4 or 5 granular scales; tubercles of the lowest row most developed and pointed; one pair of postmentals in contact; 54 rows of ventrals at midbody between lowest rows of tubercles on flanks; a patch of enlarged precloacal scales including a continuous row of 8 scales arranged in an inverted V whose 4 central ones are pitted; no enlarged femoral scales; subcaudal scales not enlarged; two or three pointed scales on the underside of each tail segment, in addition to lateral and dorsal pointed scales on each segment; hands and feet with slight basal web-bing. MSNS Rept 240: Ipassa Station, 14 June 2016. Caught at 10 P.M. in secondary forest on a branch one meter above the ground. Adult female, SVL 60 mm, TaL 46 mm, last 25 mm regenerated; pupil vertical with crenelated margins; rostral half divided by a dorso-ventral suture; SL 13 / 14; IL 11 / 10; 19 rows of dorsal tubercles at midbody, dorsal tubercles pointed, separated from each other by 4 or 5 granular scales; tubercles of the lowest row most developed and pointed; one pair of post-mentals in contact; 52 rows of ventrals at midbody between lowest rows of tubercles on flanks; a patch of enlarged pre-cloacal scales including a continuous series of six enlarged, pitted scales forming an inverted V; no enlarged femoral scales; subcaudal scales not enlarged, both in original and regenerated parts. Dissection revealed two eggs (approx. 8 × 9 mm) in an advanced development stage. The species was confirmed for Gabon by Carlino and Pauwels (2015) based on a single adult male individual from Ipassa. The present specimens thus repre-

Table 2. Details on the reptile sampling in search of haemosporidian parasites by Boundenga et al. (2016). * = new locality record; ** = new dept record.

Taxon	Sample number	Sampling date	Sample code	Locality
Testudinidae				
Kinixys erosa				
	24	23 Oct. 2009	HOREP1	Kélé*, Passa Dept**, Haut-Ogooué Prov.
	25	23 Oct. 2009	HOREP2	Kélé*, Passa Dept**, Haut-Ogooué Prov.
	42	27 Oct. 2009	HO Ron9	Franceville*, Passa Dept**, Haut-Ogooué Prov.
	90	18 Nov. 2009	OI 90	Laboka 1* (between Lalara and Koumameyong, at 15 km SE of Lalara), Lopé Dept, Ogooué-Ivindo Prov.
	91	18 Nov. 2009	OI 91	Ntsibelong* (on N. 4 road between Ovan and Makokou, at 18 km W of Makokou), Ivindo Dept, Ogooué-Ivindo Prov.
	146	2 Dec. 2009	OL 146	Lémengué*, Lombo-Bouenguidi Dept, Ogooué-Lolo Prov.
	243	23 Jan. 2010	NG 243	Mingola*, Douya-Onoy Dept, Ngounié Prov.
	251	25 Jan. 2010	NG 251	Mayenga*, Dola Dept, Ngounié Prov.
	343	11 Mar. 2010	WN 343	Ntoumessol* (near Konossaville 1°40'23.9"N, 12°04'09.7"E), Woleu Dept, Woleu-Ntem Prov.
	358	12 Mar. 2010	WN 358	Bissok*, Woleu Dept, Woleu-Ntem Prov.
	370	15 Mar. 2010	WN 370	Nkolabona, Woleu Dept, Woleu-Ntem Prov.
	376	17 Mar. 2010	WN 376	Minvoul Centre, Haut-Ntem Dept, Woleu-Ntem Prov.
	417	17 June 2010	OM 1	Kongo*, Etimboué Dept, Ogooué-Maritime Prov.
	434	25 June 2010	OM 18	Kongo*, Etimboué Dept, Ogooué-Maritime Prov.
Crocodylidae				
Crocodylus niloticus				
	324	17 Feb. 2010	MO 324	Déguélié Lake* (ca. 10 km W of Lambaréné), Ogooué et Lacs Dept, Moyen-Ogooué Prov.
Osteolaemus tetraspis				
	88	17 Nov. 2009	OI 88	Nzafieng* (16 km W of Booué), Lopé Dept, Ogooué-Ivindo Prov.
	233	22 Jan. 2010	NG 233	Mboukou* (35 km NW of Mouila), Tsamba-Magotsi Dept, Ngounié Prov.
	284	13 Feb. 2010	MO 284	Koungouleu* (20 km N of Lambaréné), Ogooué et Lacs Dept, Moyen-Ogooué Prov.
	423	23 June 2010	OM 7	Kongo (15 km S of Ikènguè), Etimboué Dept, Ogooué-Maritime Prov.
	424	23 June 2010	OM 8	Ikènguè (25 km E-NE of Omboué), Etimboué Dept, Ogooué-Maritime Prov.
Varanidae				
Varanus ornatus				
	329	9 Mar. 2010	WN 329	Nkang (on the road Oyem-Konossoville, at 13 km E of Oyem), Woleu Dept, Woleu-Ntem Prov.
	360	13 Mar. 2010	WN 360	Akam Essatouk (Canton de Nyé), Woleu Dept, Woleu-Ntem Prov.
Pythonidae				
Python sebae				
	41	27 Oct. 2009	HO Ron8	Otala*, Sébé-Brikolo Dept**, Haut-Ogooué Prov.
	115	25 Nov. 2009	OL 115	Ndoumbakoumbi* (on the road Mouila Pouvi-Koulamoutou, ca. 20 km SW of Koulamoutou), Lolo-Bouenguidi Dept**, Ogooué-Lolo Prov.
	126	27 Dec. 2009	OL 126	Koulamoutou*, Lolo-Bouenguidi Dept**, Ogooué-Lolo Prov.
	275	12 Feb. 2010	MO 275	Nkonié Lake* (ca. 40 km W-NW of Lambaréné), Ogooué et Lacs Dept, Moyen-Ogooué Prov.

sent the second and third records for Gabon. These and additional individuals observed but not collected by PC in June 2016 indicate that the species is locally common.

Hemidactylus mabouia (Moreau de Jonnès, 1818)
MSNS Rept 53a: logging camp (0°47'32.26"N, 13°8'30.07"E) along a bridge on Zadié River on the road to Bélinga, Ivindo Dept, Ogooué-Ivindo Prov., February 2011. Caught at night on a hut. Adult male. SVL 60 mm, TaL 77 mm, tail original. Pupil vertical with crenelated margins. Rostral surrounded by 1st SL on each side, nasals, and one scale separating the nasals. Rostral partly (>⅓) divided by a vertical suture. SL 13 / 11; IL 8 / 8; 15 rows of dorsal tubercles at midbody; dorsal tubercles separated from each other by 2–6 granular scales; tubercles of the lowest row similar to the others; 42 rows of ventral scales at midbody between ventrolateral folds; a continuous row of 36 femoro-precloacal pores; subcaudals strongly widened. All fingers and toes clawed, fingers and toes unwebbed. MSNS 53c: same locality and date as MSNS Rept 53a. Adult female. SVL 43 mm, TaL 50 mm, tail complete. Rostral surrounded by 1st SL on each side, nasals, and one scale separating the nasals. Rostral partly (>½) divided by a vertical suture. SL 11 / 11; IL 10 / 10; 14

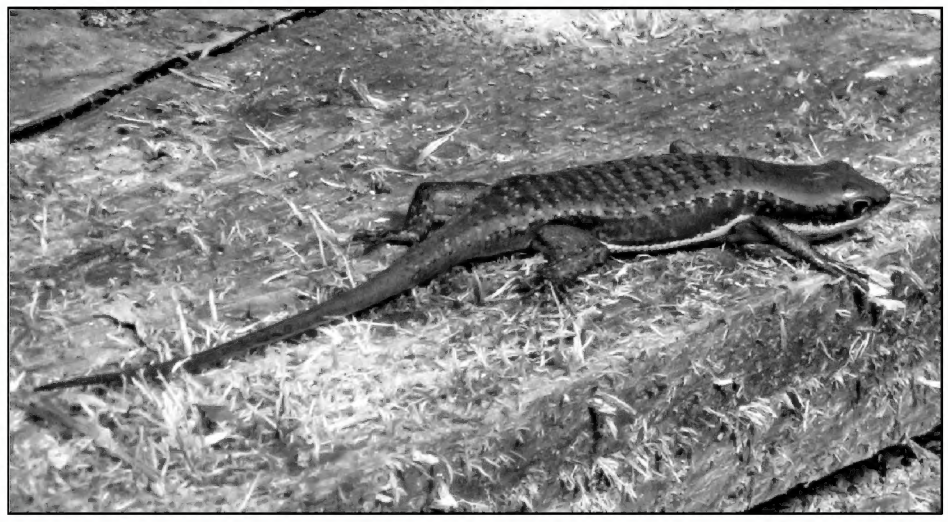

Figure 1. Live *Trachylepis p. polytropis* in Mandji, Ogooué-Lolo Province, central Gabon. Photograph by B. Le Garff.

Figure 2. Live *Trachylepis p. polytropis* on Bende Islet, Ndogo Lagoon, Ogooué-Maritime Prov., Gabon. Photograph by O. S. G. Pauwels.

rows of dorsal tubercles at midbody; tubercles of the lowest row similar to the others; 36 rows of ventral scales between ventrolateral folds. Patch of enlarged precloacal scales; no enlarged femoral scales; no femoral or precloacal pores. Sub-caudals strongly enlarged. Fingers and toes unwebbed. No lateral spiny scales on tail. New locality record. Panzera (2011) presented a photograph of a bird holding a gecko tail in its beak; neither species is identified in the caption, but they are respectively *Pycnonotus barbatus* (Pycnonotidae) and an adult *Hemidactylus mabouia* (S. Panzera, pers. comm. to OSGP and PC, 2016). They were photographed in the early morning of 18 February 2011 at Hôtel Tropicana along the beach in Libreville; after a long pursuit of the gecko, the bird got only its tail to eat (S. Panzera, pers. comm.).

Gerrhosauridae
Gerrhosaurus nigrolineatus Hallowell, 1857
See under *Psammophis cf. phillipsii* and Figure 7.

Scincidae
Trachylepis maculilabris (Gray, 1845)
One of us (BLG) observed individuals on the campus of Masuku University, Franceville, Passa Dept, Haut-Ogooué Prov. in June 2012. One of these individuals was illustrated by Le Garff (2015: 27, top left) without locality. New dept record. The first record of this species from the Haut-Ogooué Prov. was made by Ineich and Le Garff (2015) based on individuals collected in Lékoko Dept, along with individuals of *T. affinis* (Gray, 1839), a species that was then also newly recorded for the province. Le Garff (2015: 27, top right, without locality) provided a close-up view of the head of an adult *T. maculilabris* from near Bakoumba in Haut-Ogooué Prov.

Trachylepis polytropis polytropis (Boulenger, 1903)
Several individuals were observed; one was photographed by BLG in a forest at Mandji, Lolo-Bouenguidi Dept, Ogooué-Lolo Prov. in June 2014 (Figure 1). New dept record (Pauwels and Vande weghe, 2008). An adult individual was photographed in the afternoon of 11 September 2008 by OSGP on Bende Islet in Ndogo Lagoon, Ndougou Dept, Ogooué-Maritime Prov. (Figure 2). New record for the islet (Pauwels et al., 2006).

Varanidae
Varanus ornatus (Daudin, 1803)
Two adults were photographed by one of us (CV) on 26 October 2013 (Figure 3) while they were eating together food remains (spaghetti with vegetables) at the ''Chez Béti'' tourist camp, Nyonié, Komo-Océan Dept, Estuaire Prov. New locality and food records, confirming the extremely eclectic diet of this monitor (Pauwels and Vande weghe, 2008). Boundenga et al. (2016) reported negative results for the screening of haemosporidian parasites in four ''*Varanus niloticus*'' individuals from Gabon. The latter species identification is to be corrected to *V. ornatus*. No collection localities were mentioned by Boundenga et al. (2016), but we provide them here in Table 2 (Boundenga, unpubl. data). Gaël Vande weghe (pers. comm. to OSGP) observed in October 2006 a *Varanus ornatus* in Waka NP along a small forest river.

Colubridae
Crotaphopeltis hotamboeia (Laurenti, 1768)
One adult individual caught in Lékédi Park, Lékoko Dept, Haut-Ogooué Prov., was examined by one of us (BLG) in June 2012. This individual was illustrated by Le Garff (2015: 25, erroneously under *Dipsadoboa weileri* (Lindholm, 1905)). New dept record. The species was first recorded in Haut-Ogooué Prov. by Pauwels and Sallé (2009), where it was so far known only from Franceville in Passa Dept.

Dipsadoboa underwoodi Rasmussen, 1993
IRSNB 18388: SEEF (Société Equatoriale d'Exploitation Forestière) logging concession, transect R5 (0°25'42"N, 10°30'22"E; alt. 490 m asl), Monts de Cristal, Estuaire Prov., 26 Oct. 2011. It shows a frontal longer than wide; anterior pair of sublinguals longer than posterior pair; the color of the ventral

Figure 3. Adult *Varanus ornatus* eating food remains at a tourist camp in Nyonié, Estuaire Province, Gabon. Photograph by C. Vigna.

Figure 4. Live adult *Hapsidophrys smaragdinus* at Hôtel Masuku in Franceville, Haut-Ogooué Province, southeastern Gabon. Photograph by B. Le Garff.

Figure 5. Freshly killed *Thrasops flavigularis* at Pointe Denis, Estuaire Province, Gabon. Photograph by J.-B. Squarcini.

surface of its tail is the same as that of its belly; for additional characters see Table 1. New prov. record (Pauwels et al., 2002b; Pauwels and Vande weghe, 2008). We report here an additional specimen from Ipassa, where the species can be regarded as common (Carlino and Pauwels, 2015): MSNS Rept 225, caught on 14 June 2016 at 11 P.M. while it was crossing a path in secondary forest near the station; its SRR from 17 to 15 occurs above V 130 (left) and 135 (right) by fusion of rows 3 and 4, and from 15 to 13 above V 136 by fusion of both paravertebral rows with the vertebral row; temporal formula 1 + 2 (left) / 1 + 1 + 2 (right).

Hapsidophrys smaragdinus (Schlegel, 1837)
One individual was observed by one of us (BLG) in Lékédi Park, Lékoko Dept, Haut-Ogooué Prov. in April 2013. New dept record (Pauwels et al., 2007). Another individual was photographed by BLG in June 2011 in the garden of Hôtel Masuku (Figure 4) and another observed in April 2011 on the campus of Masuku University in Franceville. The individual shown on p. 288 in Vande weghe (2014), said to be from the Monts de Cristal, more precisely was photographed midway along the L-107 road, Estuaire Prov., a new locality record for the species which was already recorded from several localities in the Monts de Cristal (Pauwels et al., 2002b).

Philothamnus carinatus (Andersson, 1901)
MSNS Rept 21, an adult female (SVL 409 mm) from Ipassa, Ivindo NP, presented by Carlino and Pauwels (2015), was re-examined and its dissection revealed four eggs (length 18–20 mm, width approx. 6 mm). We report here an additional specimen from Ipassa, MSNS Rept 241, collected on 20 June 2016, a juvenile whose umbilical scar is visible on V 134–136; its SRR from 13 to 11 occurs above V 93 (left) and 94 (right) by fusion of rows 3 and 4; its temporal formula is (1/(1+1)) + 2 on the left side and 2 + (1/(1+1)) on the right side (for additional characters see Table 1).

Philothamnus heterodermus (Hallowell, 1857)
MNHN-RA 2014.0063: Mandji, about 10 km SW of Koulamoutou, Lolo-Bouenguidi Dept, Ogooué-Lolo Prov., June 2014. Main morphological characters provided in Table 1. New dept record; within the Massif du Chaillu, the species was so far recorded only from Iboundji in Offoué-Onoy Dept (Pauwels et al., 2002a). The Mandji individual was illustrated by Le Garff (2015: 25, under *P. carinatus*) without locality. MSNS Rept 229: Ipassa, Ivindo NP, Ogooué-Ivindo Prov., May 2016. Its stomach contains one *Arthroleptis variabilis* Matschie, 1893 (Arthroleptidae) with a SVL of about 40 mm, ingested head first. MSNS Rept 231: Ipassa, Ivindo NP, Ogooué-Ivindo Prov., May 2016. Temporal formula 3 + (1 / (1 + 1)) / 3 + 2 + 2; an additional half V on the right side just before the last V; its stomach contains one *Arthroleptis variabilis* with a SVL of 27 mm, ingested head last. MSNS Rept 239: Ipassa, Ivindo NP, Ogooué-Ivindo Prov., May 2016. Temporal formula 2 + (1/(1+1)) (left), ((1+1)/1) + (1/(1+1)) (right); SRR from 15 to 13 by fusion of rows 3 and 4 above V 79 (left) and 80 (right), and from 13 to 11 by fusion of rows 5 and 6 above V 86 (left) and 85 (right).

Rhamnophis aethiopissa aethiopissa Günther, 1862
MSNS Rept 226: Ipassa, Ivindo NP, Ogooué-Ivindo Prov., May 2016. Caught by day in secondary forest. Pupil round. Vertebral row distinctly enlarged. On each side, an additional, small triangular scale between the postnasal, the loreal and the 1st and 2nd supralabials. Four post-parietals. The species was already recorded from the buffer zone of the park (Carlino and Pauwels, 2015), the present record is the first from the park's core area.

Thrasops flavigularis (Hallowell, 1852)
One of us (JBS) photographed in February 2016 an adult individual killed by locals in the garden of the River Lodge hotel in Pointe Denis (0°19'01"N, 9°22'01"E), Komo-Océan Dept, Estuaire Prov. (Figure 5). New dept record. The only other record for Estuaire Prov. was made by Pauwels and David (2008) in Moukouma II in Komo Dept.

Elapidae
Pseudohaje goldii (Boulenger, 1895)
A young individual, about 1.1 m long (Figure 6), was observed at

Figure 6. Live subadult *Pseudohaje goldii* near Nyonié, Estuaire Province, Gabon. Photograph by C. Vigna.

around 10 A.M. on 1 July 2013 along Nyonié River, between the village of Nyonié and Camp Béti (GPS 0°2.4028'S, 9°20.4862'E), Komo-Océan Dept, Estuaire Prov. It was crossing a recently burnt, open grassy area in sunny weather. It escaped at high speed when approached. The photographs taken by one of us (CV) allowed to note that it had 7(3-4)/7(3-4) SL, 0/0 loreal, 1/1 PreO, 3/3 PoO, 1+2 / 1+2 temporals and 15 DSR of which the vertebral row is not widened. It is the third individual of that species observed by CV in that locality; all observations took place in the morning. New dept record (Pauwels and Kamdem Toham, 2002).

Lamprophiidae

Aparallactus modestus (Günther, 1859)

The adult female MSNS Rept 34 (SVL 468 mm) from Ipassa, Ivindo NP, presented by Carlino and Pauwels (2015), was re-examined and its dissection revealed eight eggs of subequal size, about 24 by 7 mm. We report here the 2nd specimen for Ivindo NP, caught in Ipassa in May 2016, MSNS Rept 237; its pupil is round; it shows on each side a contact between the nasal and the preocular; on each side the 6th SL contacts the parietal; its anterior sublinguals are wider than the posterior ones, but of about the same length; it has an additional half V on the left side just before the anal plate; its vertebral row is not widened.

Atractaspis boulengeri Mocquard, 1897

MSNS Rept 220: Ipassa, Ivindo NP, Ogooué-Ivindo Prov., 23 June 2016. Found at 8:30 P.M. in primary forest near the research station. Pupil round. SRR: from 23 to 21 by fusion of rows 6 & 7 at V 107 / 111, from 21 to 19 by fusion of rows 6 & 7 at V 152 / 148, from 19 to 17 by fusion of rows 4 & 5 / 3 & 4 at V 186 / 188. Temporal formula 1 + 3 / 1 + 3. No supralabial in contact with parietals. First pair of sublinguals fused with first pair of infralabials.

Buhoma depressiceps (F. Werner, 1897)

MSNS Rept 221: Ipassa, Ivindo NP, Ogooué-Ivindo Prov., 18 June 2016. Found at 9:30 A.M. in the leaf litter near the water pump of the research station. Round pupil. SRR: from 19 to 17 by fusion of rows 3 & 4 at V 76 / 74, from 17 to 15 by fusion of rows 2 & 3 at V 117 / 103. Temporal formula 1 + 2 / 1 + 2. Two pairs of sublinguals. Fast to attempt escape and repeatedly bit when caught. New record for Ivindo NP (Carlino and Pauwels, 2015), and first record from a protected area in Gabon (Vande weghe et al., 2016).

Hormonotus modestus (A. M. C. Duméril, Bibron & A. H. A. Duméril, 1854)

MSNS Rept 135: Ipassa, Ivindo NP, Ogooué-Ivindo Prov., 20 March 2015, caught on a tree branch at 80 cm above ground in secondary forest. SRR from 15 to 13 by fusion of rows 3 and 4 at the level of the V 165 / 164. MSNS Rept 219: Ipassa, Ivindo NP, Ogooué-Ivindo Prov., May 2016. SRR from 15 to 13 by fusion of rows 3 and 4 at the level of the 154th V on each side. Both specimens show a vertically elliptical pupil and an enlarged vertebral row. Main morphological characters provided in Table 1. New record for Ivindo NP and for Ogooué-Ivindo Prov. (Carlino and Pauwels, 2014, 2015). The stomach of MSNS Rept 219 contains three partly digested adult *Hemidactylus mabouia*.

Psammophis cf. phillipsii (Hallowell, 1844)

At around midday on 19 Oct. 2008 one of us (OSGP) observed an adult individual preying on an adult *Gerrhosaurus nigrolineatus* in Vera Plains (Plaines Vera), a savanna-forest mosaic locality near Gamba, Ndougou Dept, Ogooué-Maritime Prov. (Figure 7). The observation took place in an open savanna where both species are common (OSGP, pers. obs. 2002–2011). New locality and prey records, confirming the eclectic diet of this snake, already known to feed in Gabon on amphibians, lizards and birds (Pauwels and Vande weghe, 2008).

Pythonidae

Python sebae (Gmelin, 1789)

On 26 August 2015 CV photographed an adult individual (total length ca. 4.5 m) in Nyonié (0°1'20.8092"S, 9°21'4.2516"E) along Nyonié River (Figure 8). CV also photographed a 2.5 m individual on 30 March 2014 in the same locality. New locality record. Boundenga et al. (2016) reported negative results for the screening of haemosporidian parasites in six individuals from Gabon, but no collection localities were mentioned. We provide them here in Table 2 (Boundenga, unpubl. data); they represent four new locality records.

Typhlopidae

Indotyphlops braminus (Daudin, 1803)

MSNS Rept 230: 800 m North of Hôtel Tropicana, Quartier Tahiti, Libreville, Estuaire Prov., 14 March 2012. Found at 6:48

Figure 7. Live adult *Psammophis cf. phillipsii* preying on an adult *Gerrhosaurus nigrolineatus* in Vera Plains, Ogooué-Maritime Prov., Gabon. Photograph by O. S. G. Pauwels.

Figure 8. Live adult *Python sebae* in Nyonié, Estuaire Province, Gabon. Photograph by C. Vigna.

Figure 9. Live orange *Atheris squamigera* in Mondah Forest, Estuaire Province, Gabon. Photograph by C. Orbell.

P.M. in the sand on the beach under a soaked piece of driftwood, at 9 m from the wave line. SVL 99, TaL 2.5 mm. Dorsum dark grayish-brown, belly lighter. Tail tip and lateral and lower parts of head whitish. DSR 20 at midbody. When caught, it defended itself using the terminal spiny scale of its tail. First record for Quartier Tahiti; within Libreville, this snake is thus currently recorded from quartiers La Sablière, Louis, Quaben and Tahiti (Pauwels et al., 2004).

Viperidae
Atheris squamigera (Hallowell, 1856)
Two of us (CO and LJTW) observed and photographed (Figure 9) on 13 March 2016 an orange individual on a trail in the Parcelle des Conservateurs, Mondah Forest, Estuaire Prov. This is the first time that the orange morph of this species is reported from Gabon (Pauwels and Vande weghe, 2008). Local guides mentioned to LJTW that the orange morph is not uncommon in the Mondah Forest close to the beach. The adult green individual shown on p. 287 in Vande weghe (2014), said to be from the Monts de Cristal, is more precisely from Tchimbélé, which is a new locality record, adding to several localities already known for the Monts de Cristal (Pauwels et al., 2002b).

Bitis nasicornis (Shaw, 1802)
One adult individual observed by one of us (PC) on 10 April 2010 while it was swimming in Ivindo River at 8:10 A.M. near the jetty of the Ipassa Research Station, Ivindo NP, Ogooué-Ivindo Prov. New locality record.

Figure 10. Adult *Causus lichtensteinii* preying on a *Sclerophrys* toad in Lopé National Park, central Gabon. Photograph by K. Jeffery.

Causus lichtensteinii (Jan, 1859)
On 13 May 2009 at 11 A.M., KJ observed an adult individual (Figure 10) in the northern sector of Lopé NP, Lopé Dept, Ogooué-Ivindo Prov. It was on an old forestry road in an area of secondary growth forest (UTM: 786609, 9980447), in the process of consuming a toad (Bufonidae: *Sclerophrys* Tschudi, 1838). Upon the observer's arrival it slowly retreated into the adjacent vegetation, all the time holding on firmly to the toad. The adder was approximately 60 cm in total length. New dept record and first record for Lopé NP (Pauwels and Vande weghe, 2008).

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A White-striped *Plethodon cinereus* from Pennsylvania

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Eastern Red-Backed Salamanders (*Plethodon cinereus*) exhibit a wide variety of color variation, and eight color phenotypes have been described (reviewed by Moore and Ouellet, 2014). In most populations, a common color morph of this species is the "red-backed" phase, in which a red-orange dorsal stripe is present and typically extends from the head into the tail (Petranka, 1998; Moore and Ouellet, 2014). Another common color phase consists of "lead-backed" individuals, in which the dorsal stripe is absent (Petranka, 1998). In rare cases, the dorsal stripe in a red-backed phase of *P. cinereus* will differ from the typical red-orange coloration and be brown, gray, pink, yellow, or cream-colored (Hulse et al., 2001; Moore and Ouellet, 2014).

Figure 1. Montour County, Pennsylvania, *Plethodon cinereus*, bearing a white-colored dorsal stripe.

White-striped variants of the red-backed phase of *P. cinereus* are rare and few reports of these individuals have appeared in the literature (Haines-Eitzen, 2015; Ouellet and Moore, 2016). Moore and Ouellet (2014) report a *P. cinereus* from New Hampshire, with a "cream colored," white dorsal stripe and Haines-Eitzen (2015) recently reported a white-striped *P. cinereus* from New York. Gray (2011) produced a figure of an anerythristic (silver/white-striped) *P. cinereus* from Pennsylvania and Neff et al. (2015) also recently reported a specimen from Pennsylvania. Other specimens have also recently been reported from several additional localities in Canada and the United States (reviewed by Ouellet and Moore, 2016). However, as findings and reports of silver/white-striped *P. cinereus* are uncommon, additional cases are worth noting. On 2 May 2016 at 1115 h, I captured, photographed, and released a *P. cinereus* bearing a white dorsal stripe (Figure 1) on the edge of a mixed-deciduous forest bordering a powerline clearing near Danville, Mahoning Township, Montour County, Pennsylvania (40.979591°N, 76.596493°W [WGS 84]). A voucher photograph of the salamander has been deposited in the herpetological collection of the Florida Museum of Natural History (UF 178938). The salamander was released unharmed at the site of capture.

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Notes on the Herpetofauna of Western Mexico 15: A New Food Item for the Western Spiny-tailed Iguana, *Ctenosaura pectinata* (Wiegmann, 1834)

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Abstract

We observed a *Ctenosaura pectinata* (Wiegmann, 1834) (Western Spiny-tailed Iguana / *Iguana Negra de Roca*) regurgitate an *Anolis nebulosus* (Wiegmann, 1834) (Clouded Anole / *Falso Abaniquillo Nebulosa*) in the municipality of Villa de Álvarez, an urban site in the western Mexican state of Colima.

Resumen

Observamos a través de la regurgitación de *Ctenosaura pectinata* (Wiegmann, 1834) (Iguana Negra de Roca / Western Spiny-tailed Iguana) la depredación de un *Anolis nebulosus* (Wiegmann, 1834) (Falso Abaniquillo Nebulosa / Clouded Anole) en el municipio de Villa de Álvarez un sitio urbano en el occidente del estado de Colima.

Background

The predator

Mexico is home to 11 registered species in the genus *Ctenosaura*: *C. acanthura* (Mexican Spiny-tailed Iguana / *Iguana Negra del Noreste*); *C. alfredschmidti* (Campeche Spiny-tailed Iguana / *Iguana Negra de Campeche*); *C. clarki* (Michoacan Clubtail / *Nopilchi*); *C. conspicuosa* (Isla Esteban Spiny-tailed Iguana / *Iguana Negra de la Isla Esteban*); *C. defensor* (Yucatan Spiny-tailed Iguana / *Iguana Negra de Yucatán*); *C. hemilopha* (Cape Spiny-tailed Iguana / *Iguana Negra del Cabo*); *C. macrolopha* (Sonoran Spiny-tailed Iguana / *Iguana Negra de Sonora*); *C. nolascensis* (Isla San Pedro Nolasco Spiny-tailed Iguana / *Iguana Negra de la Isla San Pedro Nolasco*); *C. oaxacana* (Oaxacan Spiny-tailed Iguana / *Iguana Negra de Oaxaca*); *C. pectinata* (Western Spiny-tailed Iguana / *Iguana Negra de Roca*); *C. similis* (Black Iguana / *Iguana Negra*) (Anonymous, 2010a).

Ctenosaura pectinata is a long, robust iguana (1200 mm); the body is compressed laterally, with a row of dorsal scales forming an elongated crest. The head is very long, flattened above, covered with small hexagonal scales. Dorsal scales are smooth, smaller than the ventral; femoral pores are present. The long tail has rings of enlarged scales each separated by two or more rows of small scales (Álvarez del Toro, 1982). Body color as adults is uniformly black with scattered white yellowish spots (Ramírez-Bautista, 1994); the head is always black (Álvarez de Toro, 1982; Anonymous, 2010b).

Some iguanid lizards (sensu Frost and Etheridge, 1989) are insectivorous or eat only small amounts of plant material as hatchlings, but later become primarily herbivorous (Van Devender, 1982; Durtsche, 1999). Most lizards cannot eat leaves because the high cellulose content makes them indigestible (Iverson, 1982). The few folivorous lineages, of which iguanids are the largest group, have specialized intestinal septa that the slow passage of food, allowing an intestinal flora to digest the cellulose (Iverson, 1982; Troyer, 1984).

Ontogenetic diet shift has been documented for large iguanids by the following authors: Iverson (1982) noted that an ontogenetic change in diet from insectivory to herbivory has been suggested for several iguanids without adequate evidence. Dietary studies of the marine iguana *Amblyrhynchus cristatus* (Wikelski et al., 1993), the desert iguana *Dipsosaurus dorsalis* (Mautz and Nagy, 1987), and the green iguana *Iguana iguana* (Van Devender, 1982) reveal almost exclusive herbivory at all ages, with only small quantities of animal prey in some species. A similar pattern occurs in the rock iguana *Cyclura carinata*, which eats over 95% plant material at all ages (Iverson, 1979), and the Galapagos land iguana *Conolophus subcristatus* (Christian et al., 1984). However, in the black iguana, *Ctenosaura similis*, hatchlings eat many insects, but few plants, whereas older lizards eat many plants and few insects (Van Devender, 1982). In black iguanas lizards in the smallest size class (50–99 mm snout–vent length [SVL]) eat some leaves, but the size

Adult male *Ctenosaura pectinata* from the state of Michoacan, Mexico. Photograph by Israel Solana-Zavaleta.

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range is so wide that it is uncertain whether leaves are eaten immediately after hatching. Western spiny-tailed iguanas, *Ctenosaura pectinata,* of all ages consume flowers, but their consumption of insects and leaves varies ontogenetically (Durtsche, 1999). For hatchlings, insects make up most of the diet and leaves are only a small dietary component. Older juveniles eat some insects, but leaves are a much more important part of the diet. In adults, leaves are an important dietary component, and insects are eaten rarely if at all. There have been no behavioral studies of the ontogeny of diet. This is the case for the genus *Ctenosaura* and in particular *Ctenosaura pectinata (*Cooper and Lemos-Espinal, 2001).

Ctenosaura pectinata feeds predominantly on foliage, fruits and to a lesser extent, offspring of birds and mice (Álvarez del Toro, 1972). Rodriguez-Juarez and Osorno Cepeda (1998) mentioned anecdotal reports that it feeds on fresh leaves and fruits of *Crateva tapia* (Garlic-pear Tree / *Ruache*) during the rainy season, and the offspring of *Onychoprion fuscata* (Sooty Tern / *Golondrina de Mar*) and *Pelicanus occidentalis* (Brown Pelican / *Pelicano café*). They even mention a report of a piece of fish being found in the stomach.

Arcos-García et al. (2002) report on the diets they fed to their *Ctenosaura pectinata* at two research sites: Montecillo and Risanda. The group in Montecillo were fed *Medicago sativa* (Alfalfa), *Solanum lycopersicum* (Tomato), pupa stages of *Notonecta unifasciata* (Backswimmer / *Chiche Acuatica*) and commercial rabbit feed. In Nisanda they were fed *Hibiscus* sp. (*Tulipacho*), grasshoppers, larvae of *Galeria mellonella* (Greater Wax Moth / *Pollilla de la Cera*) and *Brassica oleracea* (Cabbage / *Repollo*). In this experiment they concluded that growth patterns of *C. pectinata* under captive conditions are determined by proper management and nutritional systems, when and if adequate temperatures are provided in their housing. They obtained better growth in Montecillo, where there was better diet management.

Zurita-Carmona et al. (2009) analyzed the stomach contents of 14 adult *Ctenosaura pectinata*. Their diet consisted of 18 plant species as well as animal remains. By frequency the plant species represented 69.8% of the diet. The plant material belonged to the families Leguminosae, Moraceae, Orchidaceae and Convolvulaceae. Animal remains accounted for the other 30.2% of observed frequencies, further broken down as: 11.3% their own skin, 9.4% insects, 3.8% crustaceans and a small proportion of myriapods and mollusks. The information above indicates that iguanas can adapt to available food items present in their habitat and they are omnivorous. More information on the natural history of the species has been documented by Suazo and Alvarado (1994) and Zurita-Carmona (1999).

Ctenosaura pectinata is a Mexican endemic, distributed from southern Sinaloa to Chiapas, and penetrating the Balsas Basin to Morelos and the state of Mexico (González, 2001; Gómez-Mora et al., 2012). It is under the protection of the Mexican environmental law (NOM-SEMARNAT-059-2010). Its greatest threats are the use as food item for humans, habitat destruction and illegal collecting. An unusual practice here in Mexico is that they are sold alive in markets, at which time the buyer asks the seller to decapitate the specimen and pour the blood into orange

Adult male *Anolis nebulosus* from the state of Michoacan, Mexico. Photograph by Israel Solana-Zavaleta.

juice. According to Mexican folklore this concoction cures many diseases and gives you energy.

The prey

About 54 species of anoles occur throughout Mexico. A distinctive feature of anoles in general in the presence of gular dewlap that can be spread fanlike at will. Many biological, especially ethological, studies have been conducted on this diverse genus.

Anolis nebulosus is a small anole (SVL in largest male 43.0 mm, largest female 39.5 mm). All scales on the body and tail, and most of those on the limbs are keeled, less distinctively in females. There are about 16 rows of enlarged dorsal scales, and about 30 rows of ventral scales. There are femoral pores or enlarged granules in males. The subdigital lamellae are not enlarged on the terminal phalanx. The interparietal scale is somewhat larger than the ear opening; three large supraoculars on each side are separated by two rows of squarish scales. Mental scale is not present. General coloration dorsally is very cryptic with various shades of brown. The ventral surface is white. Dorsally it can have dark spots or stripes along the sides and back. The dewlap has rows of white scales between which the skin is orange (Lemos-Espinal et al., 2015).

Anolis nebulosus is a species endemic to Mexico. It is widespread from the Pacific foothills of central Guerrero at around 900–1100 masl, west to the coastal and foothill regions of western Guerrero, and from there along the Pacific coast through the states of Michoacán, Jalisco and Nayarit as far north as central Sinaloa. From there the range extends inland along the western foothills of the Sierra Madre Occidental of Sinaloa, Sonora and Chihuahua. Additional populations occur in the high montane regions (to at least 2100 m) of the Transverse Volcanic Range of Michoacán and Jalisco, and the Sierra Madrean regions along the Sinaloa-Durango border. (Flores-Villela and Hammerson, 2007).

Under the Mexican Environment law (NOM-SEMARNAT-059-2010) the status of *Anolis nebulosus* is listed as unknown. Under the IUCN its status is Least Concern in view of its wide distribution, tolerance to a broad range of habitats, presumed large population, and because it is unlikely to be declining fast enough to qualify for listing in a more threatened category.

A juvenile *Ctenosaura pectinata* regurgitating a male *Anolis nebulosus*
Photograph by: Jose Concepcion Carrillo-Rodriquez.

Results

We document for the first time predation on *Anolis nebulosus* by *Ctenosaura pectinata*. Construction workers found a juvenile *C. pectinata* at their job site. They were asked to move the lizard to a more suitable site. When handled, the iguana regurgitated an *Anolis nebulosus.* The event took place on the 2 December 2015 at 11:30 A.M. in the small municipality of Villa de Álvarez (19°16′21″N, 103°43′50″E, datum WGS 84. elevation 854 masl), which borders the city of Colima, the capital of the state Colima. It is a suburban area with much human construction, but still holds a good amount of local herpetofauna. The surrounding vegetation is nondeciduous median rainforest. We took measurements of the predator *Ctenosaura pectinata* (SVL = 170 mm, Tail length = 250 mm. Total length = 420 mm, not sexed), and the prey *Anolis nebulosus* (SVL= 40 mm, Tail length = 60 mm, Total length = 100 mm, male). Considering the SVLs of both, the prey item represents 23.5% of the total body length of the predator. We believe that the ctenosaur is a juvenile because of its color; hatchlings are green in color, and stay that way for a couple of months, until they assume the species' adult coloration.

Discussion and Conclusions

Most of the authors that have contributed to understanding the diet of *Ctenosaura pectinata* (Álvarez del Toro, 1972; Rodriguez-Juarez and Osorno Cepeda, 1998; Suazo and Alvarado, 1994; Zurita-Carmona, 1999; Arcos-García et al., 2002; Zurita-Carmona et. al., 2009) seem to conclude that this species undergoes ontogenetic changes in diet, beginning as a consumer of animal protein (insects, small vertebrates), later changing to a greater source of protein coming from plant species. The diet is also subject to the sympatric animals or plants that live in its habitat, and due to its wide distribution in Mexico, it competes with many other species for food. The authors mention that it can feed on a variety of vertebrates, but this is the first documentation of consumption of the sympatric *Anolis nebulosus*. Both lizards are relatively abundant, even in suburban areas, and it is likely there are frequent encounters between the two.

We encourage herpetologists who study *Ctenosaura pectinata* to aggressively promote conservation. It would be a shame to lose these creatures because of over-exploitation and lack of awareness of wrongdoing in the handling of this natural resource.

Acknowledgments

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Horridus the Hard Way, or, My Friends Are Trying to Kill me (Part 1 of 2)

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I'm convinced that I came out of my mother's womb a herpetologist. I was probably thinking about rattlesnakes at the point in time that the doctor slapped my mother for her part in carrying me to term. But of course, I remember nothing of my thought patterns at that point in my life. Being zero years old is a reverse form of Alzheimer's. We can't remember anything when we come out, and we can't remember anything when we check out. Now how is it that a zero-year-old herpetologist and rabid *Crotalus* geek, bred and born in these here great United States of America, can reach the age of sixty-two years without ever once personally finding a living Timber Rattlesnake in the wild? The answer to that question is complex. To say that I tried to find a Timber Rattlesnake (*Crotalus horridus*) at various points in my life would be an understatement. I spent my summers in Arkansas throughout my middle and high school years. Right at the eastern edge of the Ozarks, I was. But when doing this, I was also engaged in a pastime that the youth of today might not understand: I was working. That's right, youngsters, I was working. The concept seems foreign, maybe even cruel—doesn't it? But when the long days of hauling hay, pumping gas, or washing dishes were over, there were enough trips to the bluffs and the swimming holes that a *horridus* should have crossed my path. It didn't, and I've been paying my psychiatrist weekly visits ever since. (She keeps telling me that it was because of the work thing. Apparently, like many others, she was also a late bloomer in entering the work force).

Over the past couple decades, I've been connected enough with herpers across the nation that a *horridus* could have easily crossed my path many years ago. I could have done it by using the way most herpers operate. A nice emailed leg-hump to one of the heavies back east, coupled with some name dropping, would eventually land me in front of fifty of the gorgeous brutes. But *anybody* can be led by the hand to the Promised Land. Nope, I wanted to do this *horridus* thing the hard way—my way! I wanted to be with friends who are special to me. I wanted to pick the spot—not have the spot chosen for me. The spot I chose was my own home state, sweet home Illinois. And if I ever did find a Timber Rattlesnake there, I would be in a good place, with good people, seeking a cool snake—on my own terms.

Twice before, in 2005 and 2006, I had given Illinois a serious shot, attempting to find one. Would the third time be the charm? Please read on, and find out for yourselves. Let it be said, let it be done, amen.

The Set-up

It should be stated up front that those involved with the adventure about to be described are so ashamed to be associated with anything this author says or does that they insist on the use of pseudonyms to replace their real names. I don't blame them. I wouldn't want to let the world know that I did anything with me either—if I had any choice in the matter. But what's good for the turkeys is also good for the eagle. As I was once known locally as "The King of Southern Arizona Herping," I will adopt the name "the King" for myself with what follows. Should the reader think this is a lofty title to claim, he or she should be aware that I also carry the derogatory title of "The King of Bitching." This title was earned because I always have something to complain about—especially the company that I keep. Be it "King of Herping," or, "King of Bitching," (or even "King of Nothing"), until further notice in this article, this author will assume the name of "the King." It will be a great relief to assume *any* title, as articles that contain the severe overuse of the dreaded pronoun "I" or "me" are just as bad as haughty authors who think that they are any sort of king. The only thing worse than excessive usage of "I, I, I," or "me, me, me," is adopting the imperial "we," or the extreme bottom feeder of all monikers, "this author." For the remainder of this article, we gleefully eschew all that nonsense in favor of "the King." In order to avoid the confusion of relaying events that happened to the group in general, the King will use the likes of "us" and "we" to describe them. Only the names have changed. Most of the events described are the real deal, and team efforts will be addressed as "us" or "we," and not "them" or "they."

The planning and subsequent implementation of the field trip that followed is worthy of mention. It could not have happened without the Midwest Herpetological Symposium (MHS) of 2016 as a starting point. The King was an invited speaker to this affair, as was his colleague in Arizona, the Hobbit. The words "short notice" come to mind when describing how quickly it all came together. Upon learning that the Hobbit was also an invited speaker, the King sent him a brief email asking if he wanted to extend his stay in Illinois for a herp trip. The King expected a refusal, as the Hobbit is a world-traveling herper, who gets paid to herp places like Panama, the Bahamas, the Galapagos Islands, Australia, Africa—you name it, he goes there. The Hobbit does this sort of thing several times a year. It's all part of his glorious job, the rights to which he has earned by plenty of hard work and savvy. He carries both a DVM *and* a Ph.D. in the Biological Sciences. He hides his double full lobotomy scars under an ASU hat. Much to the surprise of the King, the Hobbit quickly jetted back a reply that said he had never herped in the Midwest, and would be delighted to extend his stay. Options were next discussed, the most grandiose of which was a trip to Shawnee National Forest in southern Illinois. Once again, the Hobbit greatly surprised the King by indicating that Shawnee was not only doable, but his first choice. The Arizona contingent of the MHS next decided to invite the Chicago-based group known to us as the Big Windies. But the bottom line was that with these here Windies, or without them, the two of us were going to Shawnee.

The King fired off a notice of intent to visit Shawnee to the Stalwart, the Scoutmaster, Captain Sully, Tarzan, and Paparazzi. Several phone calls back and forth ensued. Sadly, the Stalwart

was throttled by his role as the head geek of the MHS. Captain Sully was equally involved with the affair. The Scoutmaster's career requires a minimum of six month's notice to get that kind of time off work. The selfless dedication of the three who could not go should be noted. After some hemming and hawing, Tarzan was in, and Paparazzi finally caved by saying "Let's do it!" There was simply not time enough to plan any further, or extend invitations to anybody else. It was all the four of us could do to get there ourselves!

Those familiar with these monthly columns know that the King was born and raised in the suburbs of Chicago. Some of his family still resides in the area. He spent the Wednesday, Thursday, and Friday morning preceding MHS with his younger brother. It was raining when he arrived, and the rain continued every day throughout the Saturday of the symposium. The forecast down in Shawnee land was for clearing and a general warm up for the three days that we were slated to be there. In short, had we been able to wish the ideal autumnal weather conditions for our trip, we would have wished for exactly what we got. The setup was phenomenal. There was a week of cold, wet weather to freeze the migratory patterns of herps about to move to their hibernacula. And then, the warm-up to set them in motion. We could not have purchased better weather circumstances if we were all billionaires.

Without further ado, we launch into a herp trip that was the stuff of dreams. Both Tarzan and Paparazzi have dubbed it their best-ever trip to Shawnee. As each of them have been there over 20 times through the years, that is saying a lot. The King and the Hobbit were treated to the finest of everything that southern Illinois has to offer. The weather was perfect, as was the company, the food, the lodgings, the scenic vistas, and most importantly, the herping. The King feels that the adventure compares favorably with some of the best herp trips that he has experienced in Arizona—or anywhere else for that matter. He didn't know that something as good as this could ever happen in his home state.

2 October 2016

The Midwest Herpetological Symposium was over for us now. The King would be remiss in his duties if he didn't express his gratitude to those who made it happen. The hotel was outstanding, the food was great, and the presentations were all stellar. The King has been to many herp symposia through the years, but this was the first one *ever* where he can honestly say that he enjoyed every presentation. From the first to the last, they were all more than just presentations. They were each an event in their own right. It was all a first rate dog and pony show, attended by all levels of herpers who mixed together to make the sum of it all much greater than its individual parts. In short, it was a splendid gathering that clearly demonstrated the importance of local herpetological societies as an avenue that leads to a sharing of knowledge, fellowship, and collaboration. One can't gain the kind of knowledge that was shared here through a web page or books. As any musician will tell you, "live music is best." And MHS 2016 was a symphony.

Death and taxes were no more unfailing than the precise 0800 arrival of Tarzan and Paparazzi at the Hilton of Naperville. The King received a phone call that indicated his chariot was awaiting him, and he responded by saying that he had everything packed and ready, and would be right out. It was then noted that The King knew *not* where his eyeglasses were. A frantic search of his room transpired. The atmosphere in the room soon became quite warm, as scorching curses and profanity began to emanate from his gullet. When ten minutes of searching and strong talk did not produce the status quo, or more importantly, his glasses, he checked the last possible place they could be by dumping the contents of his suitcase all over the bed. Sure enough, embraced within the loving confines of his heavily abused underwear, his glasses were found. A trip to the sink to clean them up ensued, followed by a hasty repacking effort. As his hand touched the door handle, a chance glance backward revealed that his camera was still sitting on the bedstand. That's how close to disaster that this trip came.
A gang of five heralded the 20-minute-late arrival of the King with five identical stink-eyed expressions. They also chose that moment to show him their wristwatches, of which they suddenly seemed excessively proud. The way they kept pointing at them highlighted that fact. Blubbering apologies next ensued, along with lame statements that the King's tardiness would pay off in the end. As suggested earlier in the narrative, this was to be the best-ever herp trip to Shawnee. Had the King been prompt, the whole thing might have been thrown entirely off kilter. The Stalwart and Captain Sully had joined Tarzan, Paparazzi, and the Hobbit in order to see us off. The two poor shmucks who were left behind have a unique way of saying goodbye. Apparently, instead of waving, it is their custom to kick people in the posterior while muttering "good riddance." It was a tearful and obsequious farewell. The King was touched by their earnestness.

As it was a Sunday morning, the traffic was light. In the Chicago metro area, light traffic means that the congestion was not quite total gridlock, just merely bumper-to-bumper at 70 miles per hour. Poor Paparazzi was nursing a whopper of a hangover, as he had spent his weekend at his high school reunion. The King was in even worse shape, as he had spent the previous five days with a bottle of tequila at his little brother's house, and swilling free beer at MHS. After what seemed like two forevers later, the four of us had the gigantic cesspool of humanity behind us, and were on the wide open stretch of route 57 that continues to southern Illinois and beyond. The signs that suggested the mileage to Kankakee brought Arlo Guthrie's rendition of Steve Goodman's "City of New Orleans" to the forefront of the King's mind.

> All along the southbound odyssey
> The train pulls out of Kankakee
> And rolls along past houses, farms and fields . . .

For the next four hours, our train was pulling out of Kankakee. And as the song implies, we were rolling along past houses, farms and fields. The clickity-clack melody, and cheerful lyrics kept the King's disposition in a mellow state, *until* he got to the chorus:

> Good morning America, how are yuh?

It was at this point that the lyrics went south even faster than the vehicle that we were in:

> Hey don't you know, stick a fork in me—I'm done
> Mine's the brain that's dead, I think I need a new spleen
> I'll be gone 500 miles 'til I'm having fun.

Yup, gentle reader, for the next four hours, keep repeating "rolls along past houses, farms, and fields." Keep repeating this until you become less than a blithering idiot. That's the spirit! You have just experienced a road trip from northern Illinois to southern Illinois.

But a trip through any terrain, no matter how tedious, is seldom a boring affair when the King is perched in the vehicle. While there was absolutely nothing to bitch about, the King has a creative way of finding something anyway. The first three hours were spent bitching about the hectic traffic conditions in the Chicago metro area. Just as this epic tirade was finally winding down, one misguided occupant of the vehicle made the mistake of suggesting that since we were going right by the fish farm, should we make a stop there? The thought of a visit to said fish farm was unwelcome news to the ears of the King, who launched into an entirely new soliloquy about the finer nuances of *that* place. For those unfamiliar with the fish farm, it is a series of about 50 perfectly square little ponds, set in a massive, flat, freshly mowed pasture of sorts. Apparently, there are so many fish in each pond that there is not enough oxygen in the water to support them. Hence, each pond has its own sputtering mechanical device, roughly the size of an outboard boat motor that adds the proper amount of aeration to the water. These devices, called "whatchamacallits," are on pods that allow them to float, and each have a rectangular box-like cover that weather-proofs their working innards. The fine art of herping this place involves wading crotch deep into each pond, lifting the cover off each whatchamacallit, and finding the scads of watersnakes that seek shelter within. They gather in clusters there—like the big globs of dog-ugly and totally lackluster strips of drab, linear bags of pus that they are. It is not exactly a field herping experience fit for a king. Kings do not seek coal when trying to find diamonds. And Herp Kings do not seek watersnakes when there are Timber Rattlesnakes to be had. Do Eagles soar with starlings? Do Wolves frolic with field mice? Do salmon swim upstream with carp? Of course not! And neither do Timber Rattlesnakes profane their flanks by cramming into tight quarters with filthy, musk-slinging fish eaters. That just proves that Timbers are smarter than we are. Great idea, guys! Let's wallow armpit-deep in a bunch of butt-ugly snakes that are all teeth at one end, and all musk at the other. That way, we get to continue on throughout the day bleeding like stuck hogs, and stinking like half digested carp. Nope, none of that was going to happen under the King's watch. He doesn't mind getting bit, but he is highly selective about what type of cloaca spews musk upon him.

By the time the King was finished with his epic *Nerodia*-bashing, the view was no longer houses, farms and fields. There were wide rivers, there were lakes. There were heavily forested limestone bluffs, with babbling brooks undulating around and through their loving flanks. In short: We were there! Southern Illinois. Roughly 60 species of herps can be found here. The place is the northern extent of many of the southern species, and the southern reaches of many northern species. It is a herpetological Mecca of sorts, certainly a contender for being one of the greatest herping grounds in the entire U. S. of A. It was a herpetological oyster, and we were going to do a *lot* of pearl diving for the next three days.

When we are roughly an hour away from our first stop, we decided that it might be prudent to contact the owner of the two cabins that the King had rented to see if the owner was aware that we were coming. As Paparazzi has one those fancy phones that sees all and knows all, he was unanimously nominated by the King to make that call. Said phone call was successful, as the owner eventually called back to inform us that all was ready. The next phone call went to a local whom we dub "the Guide" for this article. Those unfamiliar with the Guide are encouraged to check out the January 2016 issue of the *Bulletin of the CHS*. Go for the article entitled "Snakes of 'Snake Road.'" It is an excellent article that compares the Guide's own recent herpetological surveys with two other studies that date all the way back to 1954! Gathering 61 years of temporal depth of studies on snakes in the same location is quite an achievement, and the results are noteworthy to say the least.

Sadly, the Guide could not make our first adventure, but sent his chronic sidekick "the Flash" to meet us at what would be our first stop. Since the King has no idea where that place is, let alone what to call it, in order to honor the greatness of those that he herped with on this day, he has dubbed it "Roger Repp Land" (RRL). It is certainly the least he could do for his comrades on this fantastic day—especially since they found all the cool herps. Within minutes of our arrival, the Flash came roaring in with style. He was driving a screamer of a Ford Mustang. Out of his hotrod stepped the Flash. We were surprised to note that Flash is now on the other side of 70 years old, making him our senior by a decade or more. But age is mind over matter. He doesn't mind, so it doesn't matter. He is a tall and lean beanpole of a man, who moves briskly across any terrain. This, along with his love of muscle cars, is why he carries the pseudonym of the Flash in this article. Introductions ensued all around, and then the first step leading into the thick of RRL transpired. It was a small step for man, but a giant leap for mankind. (Speaking of this very thing, at this point in writing this narrative, a baseball game has just ended. It was a small game for man, but a giant leap for Cubs fans. Our very own Chicago Cubs have just taken out the Dodgers, five to nothing. Seventy-one years in the making, they are World Series bound. Go go Cubs! Woohoo!).

The gang started down the trail, which began as a wide open affair at the top of one of the many bluffs in the area, and quickly narrowed as we descended. One by one, the group began drifting to the right of the trail, and started the laborious process of turning boulders that were scattered about at the hillside. The King continued the descent, and was the last one to make that right turn. Hence, he was roughly 60 meters lower than the rest of his comrades when the Hobbit cried out "I've got a salamander here". The King clawed and cussed his way upslope to admire the find, which was a Slimy Salamander, roughly 15 cm long. Numerous photos followed this (Figure 1), and then the King drifted back downslope to his original position. Then, from on high again, he heard Paparazzi call out "I've got a ratsnake here!" A ratsnake? Hot-diggity-damn, we were starting off with a bang! And so, the King huffed and puffed upslope again, giving pause to eject some worthless black lung tissue during the process. The entire group was at Paparazzi's

Figure 1. The first official herp of the trip, a Slimy Salamander (*Plethodon glutinosus*) uncovered by the Hobbit. Image by the Hobbit.

Figure 2. The first of over 100 Cottonmouths (*Agkistrodon piscivorus*) encountered on this adventure to southern Illinois. Image by the King.

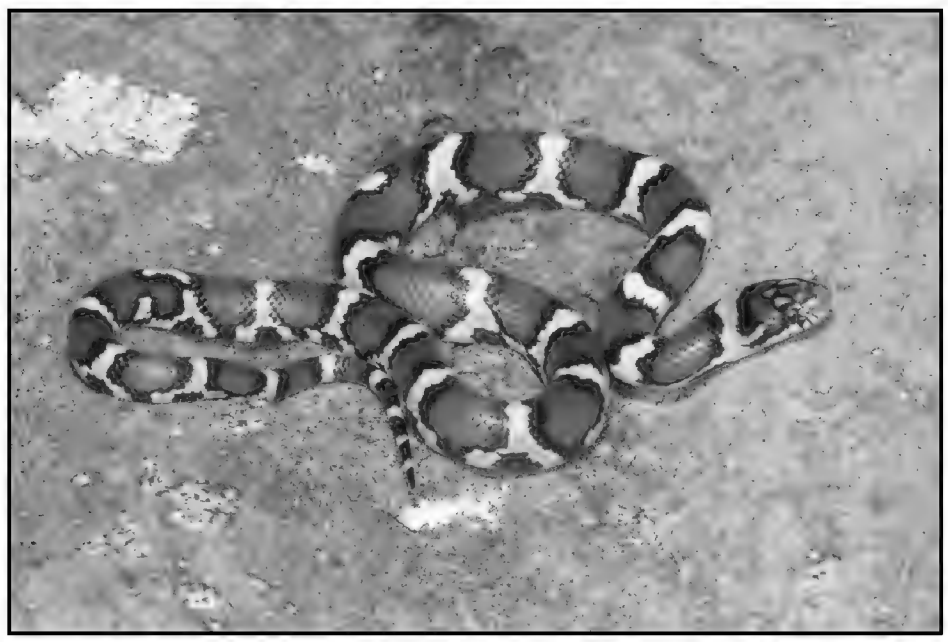

Figure 3. Red Milksnake (*Lampropeltis triangulum*) uncovered while the image in Figure 2 was being created. This was one of the big four targeted snake species. One hour was spent trying to put into words what this snake looked like in color, see text. Image by Paparazzi.

Figure 4. Same snake as Figure 3, shown in hand for size perspective. Image by the Hobbit.

Figure 5. This Black Kingsnake (*Lampropeltis nigra*) was found less than three meters away from the Red Milksnake. It was actually on the surface when found. Image by the Hobbit.

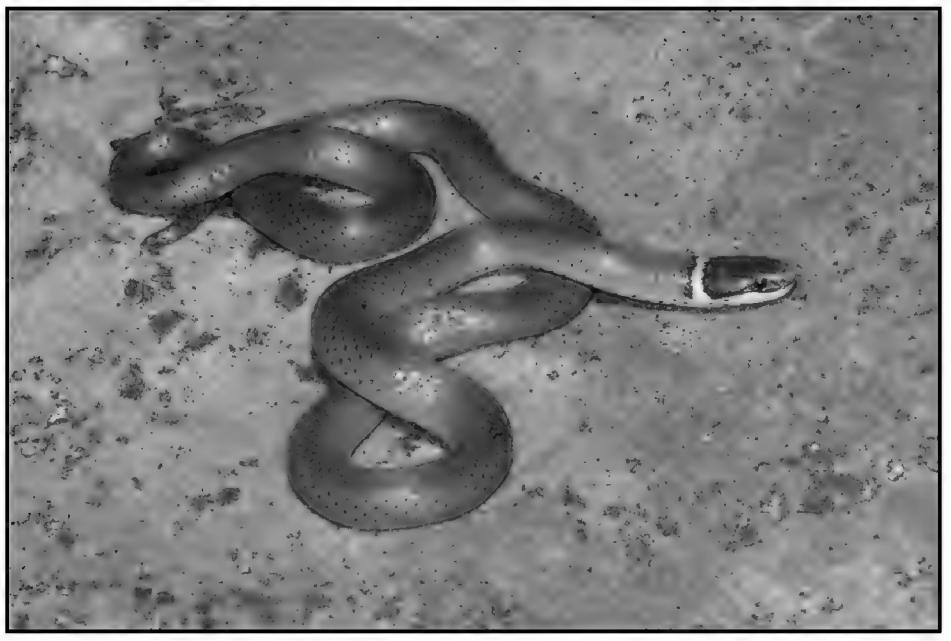

Figure 6. One of the two Ring-necked Snakes (*Diadophis punctatus*) found on our first day. Image by Paparazzi.

side long before he got there. Sayeth the King "This . . . (huff, puff, gag, retch) . . . had better be worth it!" Paparazzi had his camera ready, (which bore a striking resemblance to a field howitzer—only larger), and pointed to a flat boulder. "It's under that one." Tarzan hefted the boulder upward, and Paparazzi was ready to get the money shot of . . . . . nothing! To the dismay of all, there was no ratsnake under that boulder. There was a beautiful ratsnake-sized hole in the soil there, but no ratsnake. Hence, the very first snake that we found got away clean. Everybody sort of drifted away then, each of us muttering "Humph! Ratsnake indeed. Next time, *catch* the frigging thing, would yuh?" For the third time, the King headed downslope. He was trying to get to an attractive ledge below, when he heard the Hobbit holler "I got a Black Racer here!" Back up the slope again went the exasperated King, who sagely decided to forget all about that ledge below. *Nothing* was worth that kind of effort. By the time the King got back to the group, they were all finished with the racer. It was a gnarly old thing, roughly 1.3 meters long, and the King barely had time to snap two images of the Hobbit holding it, when somebody flipped a Cottonmouth. As the King moved upslope to photograph that, the Hobbit flipped a Red Milksnake! A few hasty images of the Cottonmouth ensued (Figure 2). It was an adult that remained coiled in situ for the images. As the King was heading back downslope to photograph the Hobbit's Milksnake, Tarzan found a Black Kingsnake coiled at the edge of a small boulder pile. This was getting ridiculous—but in a good way.

Now there were two group photo sessions going on. The first that the King was involved with was the Red Milksnake. It was a stunning tri-colored jewel, roughly 25 cm in total length. Its head was mostly red, with flecks of white and black peppered tastefully about on top. The rear of the head was encircled by a narrow black band, with a wider white collar around the neck, and a narrow black band just aft of that. Working down the snake, the next two red bands were just that—bands that completely encircled the body, each encapsulated by narrow black lines, with a swath of ivory between the black. The third band was tastefully aberrant, it was an H-shaped hieroglyphic where the red was split by a jagged swath of white and narrow black lines near the backbone. The reds then morphed from bands to blotches, with the black and white lines running willy-nilly in between, at times giving the appearance of an upside down Y. Toward the rear third, the red blotches morphed back into almost uniform-sized bands, with occasional odd-shaped white and black splotches breaking up the uniformity. The tail was ringed nicely with red, black and white bands, with the last three rings being predominantly black. In short, the little snake was an absolute screamer. It was downright vibrant, from snout to tip of tail. (Figures 3 and 4).

There were four snakes that were biggies on our wish list. In no particular order, they were Red Milksnakes, Cottonmouths, Copperheads, and, of course, Timber Rattlesnakes. Within the first half-hour of our hike, we had knocked down two of them! Eventually, the group that was photographing the Black Kingsnake traded places. Though deep in pre-shed blue, the 60-cm-long, salt-and-pepper-patterned snake was stunning in coloration, and most cooperative. (Figure 5). These two snakes were to be the only *Lampropeltis* encountered during our stay.

Less than ten minutes after the orgy of finds and photography that transpired around the herpetological candy store near the Red Milksnake, the Flash flipped out a gaudily colored neonate Cottonmouth. The 30-cm-long little dandy rivaled any Copperhead that the King has ever seen. It remained coiled and cooperative for the photos that followed. After that nice tidbit of entertainment, the group became widely separated, and the finds calmed down to a dull roar. The King managed to blunder upon the Hobbit, who had just found a Ring-necked Snake that was roughly 30 cm long. This we posed on top of a flat rock, for photos (Figure 6). At the end of it all, one more Ring-necked snake, and two more juvenile Cottonmouths, along with a few Ground and Five-lined Skinks were found.

How we managed to pry ourselves away from RRL with over an hour of daylight remaining is unclear. The King was delighted with this development, and suggested checking into our cabins, where libations and hot tubs awaited us. The King had had enough. But *real* men don't wear out as the day wears on. The hair of the dog would have to wait. It was the King's first indication that he was being held hostage by his herp buddies. He was outvoted three to one. As we were close to a set of railroad tracks that had historically produced herps, it was decided by a 75% margin that we would walk those tracks. Democracy can at times be a harsh reality to deal with. The Flash opted out of this adventure, preferring instead to deal with some laundry that he had left hanging to dry. He'd rather do laundry than herp? Good idea—the King entertained notions of joining him.

Hence, now Flashless, the four of us jetted over to the tracks. The King took great delight in the fact that there were some brand new "No Trespassing" signs hanging in our chosen parking spot. Surely that would stop us? But alas, signs don't apply to illiterates. "These signs don't apply to us," Tarzan suggested, proving that the previous sentence in this narrative to be accurate. While operating under the motto of "what's the sense in being stupid if you can't prove it?" down the tracks headed the four moving targets, scrambling down the steep and treacherous berms to either side whenever cover objects presented themselves. As if the chance of tumbling head-over-heels down the loose scree of the berm wasn't enough of a deterrent to the determined herpers, the roar of mosquitoes warming up their engines in the undergrowth at the edge of said berms began to grow deafening. The King heroically decided to cover all the ground between the rails. He also acted as a spotter, seeking cover objects from on high that might otherwise be overlooked by those who were kicking up blinding clouds of mosquitoes while wading through the chest high foliage below. "Boy," the King would utter."You just walked by that downed tie. Get in there and flip that sucker." The "boy" being addressed would then dutifully flip that tie, and find something cool. What *would* they do without their King? Using this method of herping, the King "found" some Marbled Salamanders, two Mole Salamanders, two Slimy Salamanders, some Ground Skinks and Fence Lizards. He also magnanimously allowed his crew to photograph his finds, while encouraging them to stay on track with this duty when the hordes of mosquitoes began to pick them

Figure 7. A pair of Marbled Salamanders (*Ambystoma opacum*) found with one flip of a railroad tie. Image by Paparazzi.

clean. "You're *never* going to get a good image if you keep slapping yourself silly like that!" (Figures 7 and 8).

A bridge spanning a creek forced the group back up to the tracks, and we all hoofed across that bridge together. The berms to either side of the racks then flattened out, and there were many ties and other cover objects to flip. The King flipped a small chunk of a railroad tie, and uncovered a young Cottonmouth. Tarzan rolled an impossibly small, thin strip of plank next to this, and yet another juvenile Cottonmouth was under that. (Figure 9). We seemed to hit the mother lode here, as four more young Cottonmouths were found in the area in less than five minutes. It was at this point the sun had completely set, and finally, *mercifully*, the crew decided it was time to call it quits. The pace back to the vehicle could best be described as hasty. The mosquitoes were no longer waiting in the weeds to ambush us. They were zinging in at us from all sides. By the time we got to Tarzan's vehicle, we were all using our flashlights with one hand, while wildly swatting ourselves with the other. The King has never been a big fan of aerobic exercises, but on this evening, their usefulness became clear.

The drive back to our cabins was without incident. The wild party that followed lasted all of half an hour. The Hobbit and the King retreated to their cabin and lapsed into immediate comas. Tarzan and Paparazzi had the good sense to utilize their hot tub before doing the same. For what was basically a down travel

Figure 9. : This juvenile Cottonmouth (*Agkistrodon piscivorus*) was found by Tarzan under an impossibly narrow strip of plank in the rocky bedding of the tracks. Five other Cottonmouths were found nearby. Image by Paparazzi.

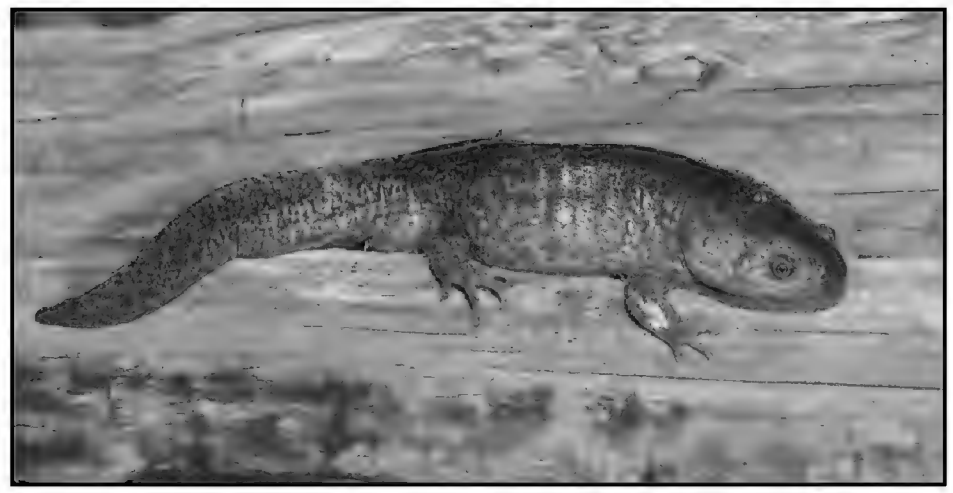

Figure 8. One of the two Mole Salamanders (*Ambystoma talpoideum*) found along the railroad tracks. Image by Paparazzi.

day, we had amassed some impressive herp totals. We started with an invisible ratsnake, and went on to score a Black Racer, a Red Milksnake, a Black Kingsnake, 2 Ring-necked Snakes, 10 Cottonmouths, 3 Slimy Salamanders, 6 Marbled Salamanders, 2 Mole Salamanders, 3 Ground Skinks, 2 Five-lined Skinks, and 5 Fence Lizards. There were no *horridus* on the list, primarily because we herped places where they were not common. But we could have done worse. We could have gone to the fish farm!

Little children might sleep all snug in their wee little beds, while visions of sugar plums dance in their wee little heads. When herp kings dream, it is an entirely different matter. If the dream is a good one, it's "snake, snake, lizard, snake, snake, turtle!" But the sweet dreams that occurred the night of 2 October 2016 could not have possibly matched the reality of what was going to happen the next day. Sadly, dear reader, you will have to wait a month to find out what *did* happen that next day. Deadlines can be tough on readers, authors, and editors alike.

To be continued

Bulletin of the Chicago Herpetological Society 51(11):197-198, 2016

What You Missed at the October Meeting

John Archer
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We have those days. I was having one that was particularly onerous. And the weather was miserable. And the traffic was bad. And the Cubs were playing in the World Series that night. I did not want to go to October's meeting. I thought a perfect evening would involve my staying home, having a beer, and watching the Cubs. I was wrong.

Ryan McVeigh. Photograph by Dick Buchholz.

I went to the meeting and I was happy I did. October's speaker was the president and founder of the Madison Area Herpetological Society, the Wisconsin representative of USARK, and the marketing brand manager for Zilla reptile products. Ryan McVeigh has been passionate about reptiles since age 4, has been keeping reptiles and amphibians since age 7, and has been breeding animals for about ten years. Two years ago he left his engineering position to work for Zilla, developing and marketing their reptile supplies. To quote our president John Bellah, who introduced Ryan, "he's one of the best people I know." He's animated, modest, and approachable, and he brought live animals. Hard to beat that for a speaker.

Ryan's talk was titled "Reptiles in Captivity, Trends, and Conserving Species Diversity." He began with a bit of the history of herpetoculture. The earliest record he could find of keeping a captive reptile was a tortoise given to William Laud, Bishop of London, in 1625. It was over a hundred and fifty years later that a book on reptile husbandry was published in German, and another hundred years before one published in English. It was not until the mid to late 1960s that the reptile trade became huge as the import of exotic wildlife exploded.

Breeding reptiles in captivity began to grow in the seventies. Through the eighties the hobby continued to expand as more people kept and bred reptiles. The rise of morphs pushed the number of breeders higher and as more species become available at retail stores more animals were bred in captivity. Today eleven percent of U.S. households have reptiles and that category of animals is the only segment of household pets that is showing consistent growth.

Ryan talked about the introduction and popularity of some commonly kept species in the hobby. Most bearded dragons are ancestors of breeding stock in Germany during the 1970s. Ball pythons were heavily imported during those years, but, due to difficulties getting them to feed, didn't really become popular until the first albino produced in captivity in 1992 (it sold for $7500). Anyone who's recently been to a commercial show knows the current popularity of ball python morphs. The still popular corn snakes began their rise after Dr. Bernard Bechtel hatched the first albino in 1959 and the large numbers of morphs made this snake a breeder's favorite through the 1980s and 1990s. The many morphs of leopard geckos made them trendy in the 2000s. Crested geckos were thought extinct until 1994 when they were rediscovered on the Isle of Pines, New Caledonia. First thought to be live breeders, the first pair was offered to private keepers for $25,000.

The reptile business is influenced by several factors. Common trends can be triggered by the introduction of new species, especially when heavily promoted by breeders, magazines, and social media. Each new morph seems to jump start spikes in breeding and keeping. Smaller living spaces make reptiles an easy choice over dogs and cats and reptiles don't need the attention or maintenance demanded by those animals. Television and TV personalities such as Steve Irwin and David Attenborough brought interactions with these seldom seen animals into living rooms all over the world. Of course the internet had a huge impact as forums and groups began to provide better husbandry and natural history information to anyone willing to research. Businesses responded with more and better products and selective breeding produced animals worth thousands of dollars.

Ryan then spoke of the consequences of the growth in the reptile industry. The good results include more captive bred animals which leads to fewer imported animals, continuing pressure to produce improved equipment and husbandry techniques, easily accessible information, heightened awareness of the status of these animals in the wild and an increase in conservation efforts, and a major decrease in mortality of captive animals. More species are being kept in better habitats with better care.

The downside to this industrialization of the hobby leads to focusing on a particular trending animal, whether a high value morph or a newly available species. Breeders are quick to jump on the latest craze and neglect species that are not as hot. Ryan listed a dozen species that are no longer available or very difficult to find that ten or twenty years ago were common and inexpensive. He lamented the commercialization of the animals to the point where they are often looked upon as commodities rather than pets. He suggested that the reptile industry and private breeders should play a larger roll in stopping the reduction of diversity in animals available for the pet trade.

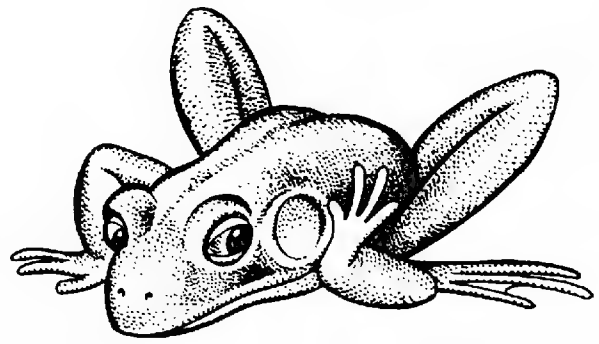
Acknowledging a love/hate relationship with CITES, Ryan praised the necessity of conserving animals in the wild while bemoaning the limits on animals in captivity. All too often CITES has the effect of preventing breeders from building populations in captivity while wild populations are threatened or

eliminated because of inadequate conservation measures. He encouraged all breeders to part with the commodity model for at least one at risk species that they could foster and breed as a bulwark against extinction in the pet trade as well as the wild.

Ryan stressed the importance of education, captive breeding, improvements in care and equipment, and conservation efforts. He encouraged joining and supporting U.S.A.R.K., local herp societies, and social media. He urged us to pass our passion on to new generations. At dinner afterwards we enjoyed a lively conversation and a bit more insight into this engaging and talented individual. I saw animals I'd never seen and learned about a side of the hobby that I was not very familiar with. I almost missed all that. I'm glad I didn't. I even got to watch the end of the Cubs game. They won that night. The day turned out much better than I anticipated.

Bull. Chicago Herp. Soc. 51(11):198, 2013

The Tympanum



Dear Editor,

Here's a great anecdote for all of us herp lovers.

The first week of October 2016 there was an Evanston house fire reported on the 9 and 10 o'clock news.

The family was safe along with two of their dogs. Two other dogs did not survive.

When fireman Doug Lindstrom of the Evanston Fire Department learned there was still one animal in the building, a snake, he took immediate action.

Doug's interest in and knowledge of snakes is well known to many of us.

He rescued the snake, a three-foot corn snake, and it's doing fine. He said that was the feistiest, upset smoked corn snake he'd ever seen.

Way to go Doug!

Don Wheeler, 2705 Sunset Trail, Riverwoods IL 60015.

Dear Chicago Herpetological Society,

I'm writing you to thank the Society and its volunteers for participating in Brookfield, Illinois' annual Meet the Creek event, September 16, 2016. We had a record attendance for the event and the volunteers and their animals handled the crowd with patience and skill. We received many compliments on the displays, and the children were thrilled to get to meet the animals upclose. In recognition of these contributions, the Brookfield Conservation Commission is making the enclosed $300 donation to the Chicago Herpetological Society.

Best regards,

Bridget Jakubiak, Chair, Brookfield Conservation Commission

Herpetology 2016

In this column the editorial staff presents short abstracts of herpetological articles we have found of interest. This is not an attempt to summarize all of the research papers being published; it is an attempt to increase the reader's awareness of what herpetologists have been doing and publishing. The editor assumes full responsibility for any errors or misleading statements.

REDISCOVERY OF A REEDFROG SPECIES

N. G. Kouamé et al. [2016, Herpetozoa 29(1/2):3-13] report the rediscovery of *Hyperolius nimbae* Laurent, 1958, a reedfrog species known only from the lowlands of the eastern flanks of Mount Nimba, western Ivory Coast. The species was described in 1958 and last seen in 1963. Forty-seven years after that date small populations were rediscovered near four villages, Dagbonpleu, Danipleu, Kouan-Houlé and Zéalé, within the formerly known range. However, only a total of seven individuals were recorded. The habitats showed various degrees of degradation, ranging from swampy forest to rice fields within degraded forest and secondary growth. The strong anthropogenic impact, in particular agricultural activities, may be an imminent risk compromising the species' long-term survival. The authors recommend further intensive search for persisting populations and their monitoring to evaluate the factors threatening the survival of *H. nimbae*.

INFECTED TOADS PREFER WARM TEMPS

S. A. Karavlan and M. D. Venesky [2016, Copeia 104(3): 746-751] note that fever is an evolutionarily conserved and effective organismal response used to reduce infection burden. Although ectotherms are unable to induce a fever endogenously because they only produce negligible heat from their metabolism, they can increase their body temperature in response to infection by selecting warm microclimates ("behavioral fever"). For amphibians, behavioral fever is hypothesized to be critical in their defense against pathogens because many amphibian immune parameters are more effective at warm temperatures. The authors explored this topic using the pathogenic amphibian chytrid fungus (*Batrachochytrium dendrobatidis*; "*Bd*"), a fungal pathogen implicated in the worldwide amphibian declines. Behavioral fever in amphibians should be an effective defense against *Bd* because fungal growth is temperature dependent and does not survive above 30°C. A laboratory experiment was conducted in which *Bd*-infected and sham inoculated metamorphic American toads (*Anaxyrus americanus*) were allowed to behaviorally thermoregulate. During the experiment, the authors recorded the body temperature of each toad and also determined their *Bd* infection intensity. *Bd*-infected toads behaviorally increased their body temperatures through the course of an infection compared to sham inoculated toads, which did not change their body temperatures. In addition, toads with higher initial *Bd* infection intensities (measured prior to the start of the thermoregulation experiment) had higher average body temperatures compared to the body temperature of toads with lower infection intensities. Collectively, these findings build understanding of the relationship between temperature and disease in the amphibian-*Bd* system and offer hope that amphibians might be able to induce behavioral fevers to clear their *Bd* infections in nature.

OVERLAND MOVEMENTS OF RED-EARED SLIDERS

I. Mali et al. [2016, Copeia 104(3):677-682] note that overland movement is an important aspect of freshwater turtle ecology. Turtles make overland excursions searching for mates, to find new aquatic habitats, in response to drought, or during nesting. This study tested how environmental factors may influence the excursion events of adult red-eared sliders (*Trachemys scripta elegans*). The authors found that 85% of turtles made overland movements at least once, which is higher than previously reported, and some turtles made multiple movements (2–6) during a single season. Rain and drought events were significant predictors of overland movements. While sex did not appear to be a significant factor, there was an indication that movement may depend on seasonal temperatures. In addition, turtles immigrated to depopulated ponds in a short period of time after a simulated harvest event. However, after a second harvest simulation, the experimental pond was not repopulated to its original abundance. These results call for caution when implementing spatially controlled harvest regimes. Ponds depleted by harvesting might not be repopulated by immigrating turtles if source population sizes also decrease due to the regular dispersal to sink populations and subsequently slows overall reproduction rates.

TAIL LOSS IN URBAN ANOLES

R. K. Tyler et al. [2016, Journal of Herpetology 50(3):435-444] note that urbanization creates drastic changes in habitat and presents considerable challenges and new sources of predation to urban-dwelling herpetofauna. Research on lizards has documented increased rates of mortality in urban areas due to generalist predators such as raccoons, feral cats, and domestic animals. Caudal autotomy (self-amputation of the tail) is a defense mechanism used to escape predation in a wide range and large number of lizard species. The tail is autotomized to evade capture, and in most species with autotomy, the tail is regenerated partially or completely. Caudal autotomy can be used as an indirect measure of predation environment; however, few prior studies have used lizard caudal autotomy to measure the predation environment of urban areas. The authors compared caudal autotomy rates in the Puerto Rican crested anole, *Anolis cristatellus*, between urban and natural sites in four Puerto Rican municipalities. Across all municipalities, they found the frequency of caudal autotomy and regeneration to be consistently, significantly higher in urban than in natural areas. These findings suggest that differences exist in the predation regime experienced by lizards in urban and natural habitats across the island of Puerto Rico. At this time, however, the specific nature of the difference in predation regime between sites is unknown. The difference in autotomy rate that was found may be driven by higher predation pressure in urban areas, differences in the predator assemblage between sites, or simply lower predator efficiency in urban habitats.

Advertisements

For sale: **highest quality frozen rodents**. I have been raising rodents for over 30 years and can supply you with the highest quality mice available in the U.S. These are always exceptionally clean and healthy with no urine odor or mixed in bedding. I feed these to my own reptile collection exclusively and so make sure they are the best available. All rodents are produced from my personal breeding colony and are fed exceptional high protein, low fat rodent diets; no dog food is ever used. Additionally, all mice are flash frozen and are separate in the bag, not frozen together. I also have ultra low shipping prices to most areas of the U.S. and can beat others shipping prices considerably. I specialize in the smaller mice sizes and currently have the following four sizes available: Small pink mice (1 day old—1 gm) , $25 /100; Large pink mice (4 to 5 days old—2 to 3 gm), $27.50 /100; Small fuzzy mice (7 to 8 days old—5 to 6 gm) , $30/100; Large fuzzy mice / hoppers (10 to 12 days old—8 to 10 gm), $35/100 Contact Kelly Haller at 785-234-3358 or by e-mail at kelhal56@hotmail.com

For sale: 25 large, heavy-duty, open-top white plastic tubs, most with installed drains, perfect for aquatic/semi-aquatic turtles, small lizards, etc. Segments of PVC drain pipe fitted to tubs can be included with purchase. Each tub is approximately 36 inches by 66 inches, and approximately 12 inches in depth. All are gently used and in great shape. Asking $75 each, $65 each for 2 or more. Pick-up only from Kenosha, Wisconsin, area. Contact Jim or Kirsten at (262) 331-3423.

For sale: Standard 24" Neodesha reptile cages, 3 × 6" vent on top, tempered glass front. Like new condition, no burns or stains, original glass. These cages do not have the dam (horizontal molding that crosses the entire front width of the cage, used to hold back bedding material)—easier to clean without the dam. About 20 currently available, $45 each. Linda Malawy, (630) 717-9955, linda_malawy@hotmail.com.

Herp tours: **Costa Rica herping adventures**. Join a small group of fellow herpers for 7 herp-filled days. We find all types of herps, mammals, birds and insects, but our target is snakes. We average 52 per trip, and this is our 10th year doing it. If you would like to enjoy finding herps in the wild and sleep in a bed at night with air-conditioning, hot water and only unpack your suitcase once, instead of daily, then this is the place to do it. Go to our web-site http:// hiss-n-things.com and read the highlights of our trips. Read the statistics of each trip and visit the link showing photos of the 40 different species we have found along the way. E-mail at jim.kavney@gmail.com or call Jim Kavney, 305-664-2881.

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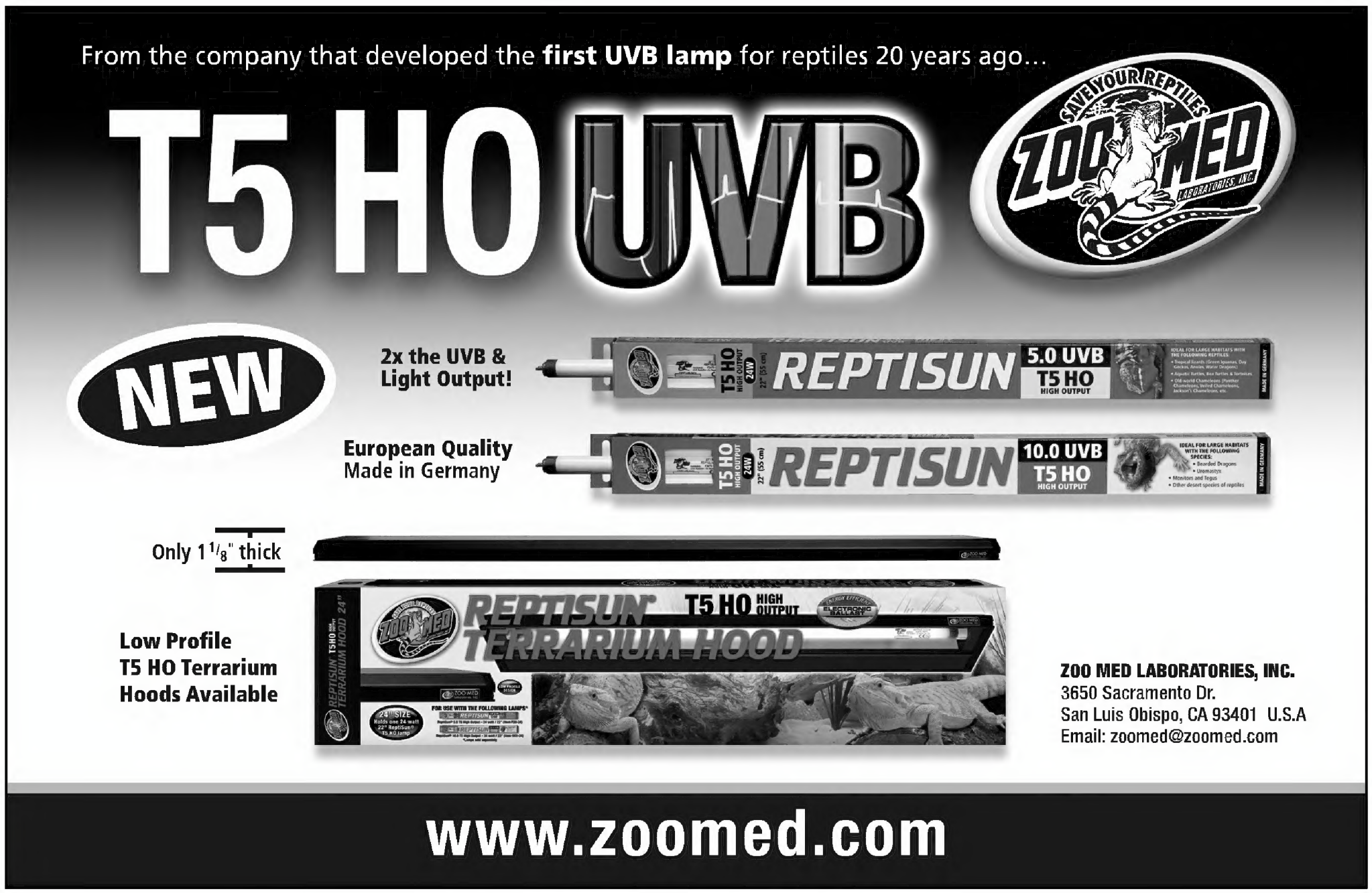
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UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at 7:30 P.M., Wednesday, November 30, at the Peggy Notebaert Nature Museum, Cannon Drive and Fullerton Parkway, in Chicago. **Marty Crump**, adjunct professor of biology at Utah State and Northern Arizona Universities, will be speaking at the November 30 meeting. Marty's latest book, *Eye of Newt and Toe of Frog, Adder's Fork and Lizard's Leg*, deals with the lore and mythology of amphibians and reptiles, and this will be the topic of her talk.

The December 28 meeting will include the annual election of officers and members-at-large of the CHS board of directors. **This meeting will also be a holiday party.** The CHS will provide soft drinks and snacks. If you would like to bring something edible to share with the group, you are invited to do so. If you would like to bring an animal to show off to the group, you are encouraged to do that as well. This will be a chance to socialize all evening and get to know your fellow members a little better.

The regular monthly meetings of the Chicago Herpetological Society take place at Chicago's newest museum—the **Peggy Notebaert Nature Museum**. This beautiful building is at Fullerton Parkway and Cannon Drive, directly across Fullerton from the Lincoln Park Zoo. Meetings are held the last Wednesday of each month, from 7:30 P.M. through 9:30 P.M. Parking is free on Cannon Drive. A plethora of CTA buses stop nearby.

Board of Directors Meeting

Are you interested in how the decisions are made that determine how the Chicago Herpetological Society runs? And would you like to have input into those decisions? If so, mark your calendar for the next board meeting, to be held at 7:30 P.M., Friday, December 18, 2016, at the Schaumburg Township District Library, 130 S. Roselle Road, Schaumburg.

The Chicago Turtle Club

The monthly meetings of the Chicago Turtle Club are informal; questions, children and animals are welcome. Meetings normally take place at the North Park Village Nature Center, 5801 N. Pulaski, in Chicago. Parking is free. For more info visit the group's Facebook page.

ABSENTEE BALLOTS

Election of CHS officers and members-at-large of the board of directors will take place at the December 28 general meeting. A downloadable absentee ballot will be posted at www.chicagoherp.org for use by members who wish to vote but who cannot be present at the meeting. A ballot is also inserted in this *Bulletin*. Mailing instructions are on the ballot.

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